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CHEMICAL PATENTS
AND
ALLIED PATENT PROBLEMS

By
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New York and Washington

JOHN BYRNE & CO.
WASHINGTON, D. C.
1917

Copyright
By Edward Thomas
1917

PREFACE.

The present book is more than a revision of my Process Digest, since it is entirely rewritten, all the cases being reread from the point of view of an attorney and expert witness, instead of that of a Patent Office Examiner. For this reason there are specific notes on the kind of evidence needed in chemical and allied cases, and also notes covering the cases on damages, licenses, etc. No attempt has been made to criticize any decision or the findings on which it is based. The book is intended as a statement of the law, with a practically complete "finding list" of the cases on which the law of chemical patents is based, and it also includes the principal cases intimately related in reasoning to such cases.

While errors will undoubtedly be found it is believed that they are only such as are easily recognized. I only regret that, unlike Robinson, I have not the leisure needed to spend two years in rereading and verifying every cited case.

Cases are cited from the reports most likely to be available, and which in general indicate the authority of the decision; viz: reports are given preference in the following order U. S. (including Wallace etc.); F. R.; O. G.; Fish. (Pat. Cases); Fish. Pat. Reports; Robb (Pat. Cases); Ban. and A.; Blatschf., etc. Readers who have only the Official Gazette can rapidly locate the F. R. and U. S. cases included therein by ascertaining the approximately parallel volumes from the table on page 4.

Since the number of cases cited approaches that in the larger works on patent law, the notes have been condensed by citing in general, only the appeal case, or the last case of a series, if that rules on all the points previously raised, though where the prior cases are cited therein from unusual reports, the O. G. citations are given herein.

It is too much to hope that everyone will be satisfied with the grouping of the cases. An attempt has been made to cite all cases on obscure points, and on leading points to cite all important cases together with those cases which contain many citations. The work covers 242 U. S.; 237 F. R. and 235 O. G.

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TABLE OF PARALLEL VOLUMES.

YEAR.	O. G. Vols.	Fed. Rep. Vols.	U. S. Vols.	App. D. C. Vols.
1872	1-2	.....	*14-15	.....
1873	3-4	.....	*16	.....
1874	5-6	.....	*17-22	.....
1875	7-8	.....	*23	.....
1876	9-10	.....	91-93	.....
1877	11-12	.....	93-97	.....
1878	13-14	.....	97	.....
1879	15-16	.....	97	.....
1880	17-18	1-4	100-102	.....
1881	19-20	5-9	102-103	.....
1882	21-22	9-14	104-106	.....
1883	23-25	14-18	106-109	.....
1884	26-29	18-22	109-112	.....
1885	30-33	22-25	112-116	.....
1886	34-37	25-29	116-119	.....
1887	38-41	29-32	119-123	.....
1888	42-45	32-36	123-128	.....
1889	46-49	36-40	129-132	.....
1890	50-53	40-44	132-137	.....
1891	54-57	44-48	138-141	.....
1892	58-61	48-52	143-145	.....
1893	62-65	52-58	147-150	2
1894	66-69	58-64	148-155	2, 3
1895	70-73	64-70	155-159	5, 6, 7
1896	74-77	70-76	161-163	7, 8, 9
1897	78-81	77-82	167	9, 10, 11
1898	82-85	83-90	169-170	11, 12, 13
1899	86-89	90-97	169	14, 15
1900	90-93	97-104	177-179	15, 16, 17
1901	94-97	104-111	179-180	17, 18
1902	98-101	111-118	183-186	16-19
1903	102-107	118-125	183-191	21, 22
1904	108-113	125-132	192	23, 24
1905	114-119	133-140	193-198	24-26
1906	120-125	140-148	198-204	26-28
1907	126-131	148-156	206-207	28-30
1908	132-137	156-164	200-211	30-32
1909	138-149	164-173	213-214	33
1910	150-161	173-182	215-217	34
1911	162-173	182-190	220-221	36-38
1912	174-185	191-199	225-229	37-39
1913	186-197	200-208	226-229	39-41
1914	198-209	208-217	231-233	41
1915	210-221	218-227	235-239	42, 43
1916	222-233	227-236	239-242	

*Wall.

TEXT.

The intention of the patent law of the United States is to give a monopoly for seventeen years to the inventor or discoverer of a new art or a new utility in any substance, structure or piece of machinery. The inventor is required to publish a brief, clear description of his invention and to carefully define it (viz: claim it), so that anyone may at any time find out whether he is infringing on the rights of the inventor. Of course in carrying out this law many practical difficulties arise. It is, for example, often difficult to decide how far a definition or claim can be pushed in covering items substantially the same from one point of view though they differ in other ways. Then, too, the definition must cover a distinct step in advance and not something that is simply better but not otherwise new; further, the definition must cover the real invention and not a mere application of it.

It is obviously impossible for the Patent Office or the courts to examine every workshop, laboratory and factory, so in judging whether the improvement is really new it is necessary to take such published data as are available and decide from these whether the applicant for a patent has shown such an improvement as any skilled mechanic or expert in the art might be expected to have extemporized, or whether it is more than that and so deserving of a patent. In facing these difficulties and the analogous ones that arise in determining the scope of an invention, etc., the courts have laid down certain fundamental principles, such as that it is not patentable[1] to put an old machine to a new use; that an abandoned experiment[2] cannot defeat a later patent; and that where an improvement goes into extensive use from its own[3] merits, a patent allowed on it must almost certainly have been justified.

Every patent (except for design patents) is directed either to an "instrument" or to an "operation," the "instrument" being either a machine, a "manufacture" (such as a structure which has some physical utility), or else a composition of matter, (though this last is really only a specific form of manufacture). Every chemical patent properly so called seems to be directed either to an "operation" per se, or else to an "instrument" whose patentability depends on its relationship to an operation in or on material outside itself, e. g., a dye.

[1]Ames v. Howard, 1 Robb. 689; Bean v. Smallwood, 2 Robb. 133.

[2]Crown v. Aluminum, 108 F. R. 845. See also note 82.

[3]Falk v. Missouri, 103 F. R. 295.

In addition to what are strictly chemical patents and "operation" patents there are many analogous patents out of which problems arise, more nearly allied to chemical and "operation" patents than they are allied to strictly mechanical patents. Such a problem was presented by the British patent covering easily fusible tubes of water within the hollow walls of safes to increase their resistance to fire. This was held infringed[4] by a hollow safe wall filled with alum which gives off water when heated. Such problems obviously call for expert testimony,[5] as do most chemical patents.

Almost all patents, therefore, may be divided into two classes, first those in which patentability turns on mechanics[6] in its restricted sense (viz: the mechanics of rigid bodies and machines), and secondly those in which[7] patentability turns on chemistry or on electrical or molar physics (viz: the physics of masses of matter, such as the flow of liquids[8] etc.). Though the distinctions[9] between processes and "manufactures" and machines are sometimes[10] vital, and from a strictly philosophical point

[4]Milner v. Harrison, cited at 2 Web. Pat. Cas. 291.

[5]Dececo v. Gilchrist, 125 F. R. 295; Sundh Elec. v. General Elec., 204 F. R. 277; Schupphaus v. Stevens, 95 O. G. 1452; Mark v. Greenwalt, 138 O. G. 965; 140 O. G. 509; Keyes v. Grant, 118 U. S. 25; A. B. Dick v. Underwood, 235 F. R. 300; Gutta Percha v. Goodyear, 3 Ban. and A. 212; Stevens v. Keating, 2 Web. 181; Fabric Coloring v. Alexander, 109 F. R. 328; Kintner v. Marconi, 215 F. R. 104; Hassam Paving v. Consolidated, 215 F. R. 114; Wallerstein v. Christian, 215 F. R. 919; Warren v. Grand Rapids, 216 F. R. 364; Merrell v. Natural, 219 F. R. 572. For the need of weighing opinion evidence carefully in obscure questions of electricity, see Pieper v. S. S. White, 228 F. R. 30.

[6]A few patents depend for their novelty on the coöperation of parts in the mind of the user or operative. Krell Auto v. Story, 207 F. R. 946, and citations therein. Certain patents on electric signalling also seem to depend on mental coöperation, see O'Reilly v. Morse, 15 How. 62, and National Electric Signal v. United, 189 F. R. 727. But a process which depends on coöperation of the nervous system is not patentable. Morton v. N. Y. Eye, 2 Fish. 320. But see, ex parte, Sanche, 80 O. G. 185.

[7]Porter v. Baldwin, 227 F. R. 216; Stevens v. Keating, 2 Web. 181 at 188; Bartey v. Lincoln, 4 Fish. 379; Amer. Fibre Chamois v. Buckskin, 72 F. R. 508. Process of forming wire glass. Western Glass v. Schmertz, 185 F. R. 788.

[8]Horn v. Bergner, 68 F. R. 428; Ex parte Rogers, 87 O. G. 699; Terry v. Sturtevant, 231 F. R. 162.

[9]Uhlman v. Arnholdt and Schaefer Brewing, 53 F. R. 485.

[10]Ex parte Rogers, 87 O. G. 699; Grier v. Wilt, 120 U. S. 412; Mitchell v. Connellsville, 231 F. R. 131; Kiefer v. Unionwerke, 231 F. R. 733; General Electric v. Laco, 233 F. R. 96; Fancy v. Empire Fire Clay, 47 F. R. 313; Pratt v. Thompson, 83 F. R. 516; Weierman v. Shaw, 157 F. R. 928. Where invention lay in process only, product claim is void. Dieckmann v. Milwaukee, 174 F. R. 150; Compare National Enamelling v. N. E., 151 F. R. 19; Le Roy v. Tatham, 14 How. 156; 22 How. 132. Compare O'Reilly v. Morse, 15 How. 62; Corning v. Burden, 15 How. 252; Boston Elastic v. Easthampton, 5 O. G. 696; Bell v. Gray, 15 O. G. 776; Bullock Electric v. Westinghouse, 129 F. R. 105. Compare Underwood v. Gerber, 149 U. S. 224; Risdon v. Medart, 158 U. S. 68. Compare Boyden v. Westinghouse, 170 U. S. 537. An article claim cannot be construed as a process. Ewart v. Mo-

of view always[11] exist, yet the present writer believes that in practice it is impossible to define the lines of distinction so that the definition will be of universal practical utility in patent law. The difficulty of drawing such lines and the unreasonableness of attempting to deduce them from the decisions of the courts lies largely in the fact that patentability depends on utility, bearing in mind that utility means "industrial[12] value," and this utility may be defined either by the[13] product or the[14] result of the machine or process,[15] or by the adaptability of the "manufacture" to coöperate with something[16] else, or it may depend on the coördination of its parts among themselves.

The claims of a United States patent, in the case of most machines and many processes (including chemical processes), may well be regarded as definitions of the parts of the invention in terms of their absolute[17] industrial value, viz: in terms of the function they contribute to the elements with which they are associated; but in the case of many manufactures (for example textile fabrics) and compositions of matter, the claim merely recites the novel useful elements. Now since the industrial value of an invention may be often approached from more than one point of view it seems obvious that a claim may on its face cover

line, 30 F. R. 871. Where the invention lay in using an old skein in a novel way, a claim to the skein is void. Grant v. Walter, 38 F. R. 594; 148 U. S. 547.

[11]New Process Fermentation v. Koch, 21 F. R. 580; Compare in re Weston, 94 O. G. 1786; Ex parte Kilbourn, 221 O. G. 737. But see ex parte, Trevette, 97 O. G. 1173. Compare Expanded Metal v. Bradford, 214 U. S. 366; and citations therein.

[12]See street flushing machine where invention lay in angle of incidence of stream. Sanitary Street Flushing v. Amsterdam, 225 F. R. 389; 229 F. R. 421; Eibel v. Remington, 234 F. R. 624.

[13]Reichenbach v. Kelly, 94 O. G. 1185; Sydeman v. Thoma, 141 O. G. 866; Vacuum v. Innovation, 234 F. R. 942; Pelton Water Wheel v. Doble, 190 F. R. 760; Buzzell v. Andrews, 25 F. R. 822; Knickerbocker v. Rogers, 61 F. R. 297; King v. Hubbard, 97 F. R. 795; Diamond v. Brown, 130 F. R. 896; 137 F. R. 910. Compare United Shoe v. Greenman, 153 F. R. 283; Grever v. U. S. Hoffman, 202 F. R. 923. See mere change of angle in a grate. McClave v. Treadwell, 220 F. R. 144.

[14]Novelty v. Brookfield, 170 F. R. 946; Mine v. Braeckel, 197 F. R. 897; Cimiotti Unhairing v. Am. Fur., 193 U. S. 670 and citations; Lewis v. Cronemeyer, 130 O. G. 300; Knight v. Gavit, 11 Fed. Cas. 765; Treadwell v. Fox, 3 App. Comr. Pats. 201; Wells v. Hegaman, 29 Fed. Cas. 648; Mayer v. Mutschler, 237 F. R. 654.

[15]Le Roy v. Tatham, 22 How. 132. Bleaching flour is patentable, even though the product may be an adulterant. Naylor v. Alsop, 168 F. R. 911. "It is not a method of making better coke, but a better method of making coke." Mitchell v. Connellsville, 231 F. R. 131.

[16]Hogan v. Westmoreland, 167 F. R. 327; Kennicott v. Holt Ice, 230 F. R. 157; Voorhees Rubber v. McDonell, 231 F. R. 741. Compare Sundh v. General, 235 F. R. 708. Insulated gas burner joint not anticipated by same material for whole burner. Bogart v. Hinds, 26 F. R. 149; Ewart v. Moline, 30 F. R. 873. But see Maitland v. Gibson, 63 F. R. 126; 63 F. R. 840.

[17]Bell v. Gray, 15 O. G. 776; Wyeth v. Stone, 2 Robb. 23; Whitney v. Emmett, 1 Robb. 567.

only a machine, but depend for its validity on, and have its scope determined by considerations which are not mechanical.[18] Again, for example where a novel elasticity is obtained in a knit fabric, it may be impossible to state whether the invention lies in the fabric itself, or in the method of forming it.

Many considerations must determine from what point of view a claim should be drawn, since on the one hand a process claim is not infringed by the selling of the product[19] of the process, while on the other hand situations arise like that in which an inventor patented a special form of skein which he devised for use in dyeing, but the patent was held void because the skein turned out to be old, though its use in dyeing[20] was new.

The subject of the relationship of processes, products, machines, etc., is further complicated by the fact that the courts usually construe patents liberally in the[21] endeavor to give adequate protection to patentees who are relying on imperfectly conceived and badly constructed specifications and claims.

The present writer realizes that it is impossible for him to include every case which turned on considerations having their basis in facts which are primarily chemical in their nature, or which belong with chemical facts, largely because such facts frequently do not appear on the face of the decision. Besides this there will be some disagreement as to what constitute such facts. It is believed, however, that the cases cited herein cover almost every pertinent point.

The present writer feels sure that if the same attention were given to specification planning[22] and writing as is often given to claim draft-

[18]Seibert Cyl. Oil Cup v. Harper Steam Lub., 4 F. R. 328; King v. Hubbard, 97 F. R. 795; National Electric v. Telefunken, 208 F. R. 679 (overruled on new evidence, 230 F. R. 829); Detroit Copper v. Mine, 215 F. R. 100; U. S. Hoffman v. Becker, 224 F. R. 484; Corning v. Burden, 15 How. 252; Dececo v. Gilchrist, 125 F. R. 293; Hubbell v. U. S., 179 U. S. 82; Weintraub v. Hewitt, 178 O. G. 889; 180 O. G. 882. But "method" has frequently been used in describing a mere mechanical coördination of elements. Flower v. Detroit, 127 U. S. 557; Burt v. Evory, 133 U. S. 349. See elasticity of hairs in fur. Cimiotti Unhairing v. Am. Fur, 193 U. S. 670, and citations therein.

[19]Merrill v. Yoemans, 94 U. S. 568; Am. Gramophone v. Gimbel, 234 F. R. 361.

[20]Grant v. Walter, 148 U. S. 547.

[21]New Process Fermentation v. Maus, 20 F. R. 723; National Enamelling v. N. E. 151 F. R. 19; Novelty v. Brookfield, 170 F. R. 946.

[22]General Subconstruction v. Netcher, 174 F. R. 236; Lumber v. Nestor, 178 F. R. 927; Ballou v. Potter, 110 F. R. 969; National Enamelling v. N. E., 151 F. R. 19; Gilbert v. Waltzelham, 197 F. R. 315; Sewall v. Jones, 91 U. S. 171; McKnight v. Pohle, 130 O. G. 2069. In re Merrill, 199 O. G. 618; Béné v. Jeantet, 129 U. S. 683; Gottfried v. Crescent Brewing, 9 F. R. 762; Royer v. Chicago, 20 F. R. 853; Tannage v. Zahn, 66 F. R. 986; Chemical v. Raymond, 68 F. R.

ing, much expensive litigation would be avoided, for the patentability of claims and the correctness of the underlying theory of the specification can often be made so obvious as to render it useless to attack them in court. Solicitors often forget that theoretically the specification is not addressed to lawyers, but to those skilled in the art, and must at least set forth real and fundamental facts of the invention, and not merely irrelevant observations, however new and interesting the phenomena[23] may seem to be at the time.

Specification writers often forget that any process and composition claim is void if the steps or ingredients enumerated in the claim are less[24] than those which the specification makes essential; and that, in the same way, if a given device or limitation is essential, according to the specification, one who does[25] not use it is not an infringer. But, while claims are limited by the statement of invention, they are not limited by the examples given, and may be much[26] broader than such examples.

Many a patent has been rendered worthless by failure of the specification writer to include a careful detailed description of how the process, etc., might be carried out, apparently through fear lest such a description might be construed as a necessary limitation of the claims. Specification writers seem to forget that such a description is strictly analogous to the drawings of a mechanical patent, and if properly worded need never constitute a limitation.

570; 71 F. R. 179; Kennedy v. Solar, 69 F. R. 716; Cerealine v. Bates, 77 F. R. 970; Matheson v. Campbell, 78 F. R. 910; National v. Swift, 104 F. R. 87; Bracewell v. Passaic, 107 F. R. 467. Such as stating that a given apparatus is necessary. Georgia v. Billfinger, 129 F. R. 131.

[23]Russell v. Dodge, 93 U. S. 460; Carnegie v. Cambria, 185 U. S. 425.

[24]Universal Brush v. Sonn, 146 F. R. 517; Downs v. Teter-Heany, 150 F. R. 122. Compare Arnold v. Phelps, 20 F. R. 315; Crown Cork v. American, 211 F. R. 650; Orr v. Aschenbach, 225 F. R. 71; L. H. Gilmer v. Geisel, 187 F. R. 606; 187 F. R. 941; Francis v. Mellor, 1 O. G. 48; Ex parte Loeser, 9 O. G. 837; In re Creveling, 117 O. G. 1167. Compare in re Dosselman, 167 O. G. 983; Dittmar v. Rix, 1 F. R. 342; Simmonds Counter v. Young, 35 F. R. 517; Royer v. Coupe, 38 F. R. 113. Is therefore void if it fails to distinguish from prior art. Cerealine v. Bates, 77 F. R. 970. Omitting step in electrical control method. General v. Garrett, 141 F. R. 994; reversed on ground step is only modified. General v. Garrett, 146 F. R. 66. Compare National Newsboard v. Elkhart, 123 F. R. 431; Hentschel v. Carthage, 169 F. R. 114; National Enamelling v. N. E., 153 F. R. 184. The word "meantime" in a claim cannot be ignored. Crown Cork v. American, 211 F. R. 650; Trussed v. Corrugated, 222 F. R. 514.

[25]Doubleday v. Bracheo, 2 Fish. 560; Am. Wood Paper v. Heft, 3 Fish. 316; but see Buchanan v. Howland, 2 Fish. 341. Compare Strong v. Noble, 3 Fish. 586.

[26]Ex parte Steinmetz, 224 O. G. 363; ex parte Fritts, 227 O. G. 737; Electric v. Carborundum, 102 F. R. 618; Goodwin v. Eastman, 213 F. R. 231; Tilghman v. Proctor, 102 U. S. 707; Buchanan v. Howland, 2 Fish. 341. But see North American Chemical v. Keno, 227 F. R. 63.

The question of joint[27] inventorship of processes, as set forth in the decisions, is difficult to reconcile with analogous decisions on machine patents.

Patents which seem to be mechanical method patents, are apparently very rare except in arts like the textile art, where elasticity and other obscure properties often are vital, so that the mechanical methods of kniting, weaving, etc. have a profound but not easily[28] foreseen effect on the product.

A process is independent of a given form of machine, though some processes appear to be necessarily performed only by a given machine at the time[29] of patenting. The patentability of processes which are primarily mechanical is extremely difficult of definition[30] and usually cannot be decided on the[31] face of the patents. Apparently a series of steps is patentable if its[32] utility overcomes a hitherto insuperable obstacle, or depends on an idea which has previously been thought[33] preposterous, or depends on some hitherto unsuspected possibility in the[34] materials used.

[27]Welsbach v. Cosmopolitan, 104 F. R. 83; Barrow v. Wetherill, MacArthur, 315.

[28]General Knit v. Steber, 190 F. R. 47; Chase v. Fillebrown, 58 F. R. 374; Baling hay. Dederick v. Cassell, 9 F. R. 306. But see method of making cigarettes. Ludington Cigarette v. Anargyros, 188 F. R. 318. Fabric valid. Kerr v. Hoyle, 55 F. R. 658.

[29]Doelger v. German-American, 204 F. R. 274. Compare note 102.

[30]Neidich v. Edwards, 169 F. R. 424; Edison v. Allis, 191 F. R. 837; San Francisco v. Beyrle, 195 F. R. 516; Engineer v. Hotel, 226 F. R. 779; 226 F. R. 949. Compare Kennedy v. Beaver, 232 F. R. 477; Ex parte Mann, 3 App. Com. Pats. 367; Appleton v. Star, 60 F. ... 411. Mere cutting, etc. and assembling not patentable. Wells Glass v. Henderson, 67 F. R. 930. Compare International Tooth Crown v. Bennett, 72 F. R. 169; 77 F. R. 313; International v. Kyle, 96 F. R. 442. Compare Strom v. Weir, 83 F. R. 170. Compare American Strawboard v. Elkhart, 84 F. R. 960. Compare Goldie v. Diamond, 81 F. R. 173. Making rasp teeth not patentable. Stokes v. Heller, 96 F. R. 104.

[31]Matteawan Mfg. v. Emmons, 185 F. R. 814.

[32]A patent whose only purpose is to produce a deceptive product is not useful within the meaning of patent law. Rickard v. Du Bon, 103 F. R. 868; Edison v. Hardie, 68 F. R. 487; Ex parte Morris, 1870 C. D. 71.

[33]Goldie v. Diamond, 81 F. R. 173; Breuchaud v. Mutual, 166 F. R. 753; American Graphophone v. Universal, 151 F. R. 595; American Graphophone v. Leeds, 170 F. R. 327; Westinghouse v. Allis, 176 F. R. 362; Porter v. Baldwin, 227 F. R. 216; Carnegie v. Cambria, 185 U. S. 425; Snook-Roentgen v. Stetson, 237 F. R. 204.

[34]Lalance and Grosjean v. Habermann, 53 F. R. 375; Pittsburg Reduction v. Cowles Elec. Smelt., 55 F. R. 301; Chisholm v. Johnson, 106 F. R. 191; reversed 115 F. R. 625, but see dissent, and Chisholm v. Fleming, 133 F. R. 924; Utilizing heat of impurities in alumina hydrate when treated with acid. Damon v. Eastwick, 14 F. R. 40; Karfiol v. Rothner, 165 F. R. 923; Mica v. Commercial, 166 F. R. 440. Repairing injured tree. Davey v. Cutter, 197 F. R. 178. Grading grinding sand. Hitchcock v. American, 227 F. R. 227. McClurg v. Kingsland, 1 How. 202; United Nickel v. Harris, 17 O. G. 325 (see other United Nickel cases). In a manufacture, General Electric Co. v. Laco, 233 F. R. 96. Compare Eibel v. Remington, 234 F. R. 624. Minerals Separation v. Hyde, 242 U. S. 261.

A method of assembling a ball bearing having both inner and outer races integral was held[35] patentable, though putting an old seam in a difficult place was held not to be a patentable[36] process. Mere transpositions of the material used to another part of a machine operating on them does not make a patentable[37] process.

The result which was hitherto[38] unattainable will confer patentability on the process which produces the new result, even if that result or utility is only in enabling the product to be obtained at less[39] cost and in less time, though the new result or utility must be revolutionary, and not merely better.

It seems generally agreed that a process which involves a new sequence of chemical or mechanical steps, or an electrical operating system, is[40] patentable if the result differs greatly from that produced by the old order of steps or organization, either in increased[41] efficiency of work, or

[35]Hess Bright v. Standard, 177 F. R. 435. Compare Breuchaud v. Mutual, 157 F. R. 844; reversed, 166 F. R. 753. Compare in re Weston, 94 O. G. 1786.

[36]McKay v. Jackman, 12 F. R. 615. But putting a new foundation in a difficult place is patentable. Breuchaud v. Mutual, 166 F. R. 753. Grinding down part of the mussel shells and then cutting blanks is not patentable. In re Weber, 117 O. G. 1494.

[37]Gindorff v. Deering, 81 F. R. 952; Burr v. Duryee, 1 Wall. 531, distinguishing McClurg v. Kingsland, 1 How. 202. Compare a heating system. Ex parte Dixon, 123 O. G. 653.

[38]United Nickel v. California, 25 F. R. 475; Adams v. Bridgewater, 26 F. R. 324; Cary v. Lovell, 31 F. R. 344; Pacific v. Southern, 48 F. R. 300; Vermont v. Gibson, 56 F. R. 143; Salts Textile v. Tingue, 227 F. R. 115; Philadelphia Rubber v. U. S., 229 F. R. 150; but see Philadelphia Rubber v. Portage, 227 F. R. 623; Tilghman v. Morse, 1 O. G. 574; United Nickel v. Anthes, 1 O. G. 578; R. Thomas v. Electric Porcelain, 111 F. R. 473. Even if the result is merely making intelligible signals. National Elec. Signal v. United Wireless, 189 F. R. 727; Marconi v. De Forest, 138 F. R. 657; Marconi v. National, 213 F. R. 815; French v. Rogers, 1 Fish. 133; O'Reilly v. Morse, 15 How. 62. Uniting metal to rubber. Hood v. Boston, 21 F. R. 67.

[39]Beryle v. San Francisco, 181 F. R. 692; Kahn v. Starrells, 135 F. R. 532; Gottfried v. Bartolomae, 13 O. G. 1128; overruled Crescent v. Gottfried, 128 U. S. 158; Gibbs v. Hoefner, 19 F. R. 323; Eastern Paper Bag v. Standard, 30 F. R. 63; N. Y. Grape Sugar v. Buffalo, 18 F. R. 638; Travers v. American Cordage, 64 F. R. 771; Schwarzwalder v. N. Y., 66 F. R. 152. Or in an electrical distribution method, to make it commercially more useful. Bullock v. Crocker, 141 F. R. 101. But see Hyde v. Minerals, 214 F. R. 100, reversed, 16 Met. and Chem. Eng. 21; and De Lamar v. De Lamar, 117 F. R. 240. Compare Kintner v. Atlantic, 230 F. R. 829. Minerals Separation v. Miami, 237 F. R. 609.

[40]New Process Fermentation v. Maus, 20 F. R. 725; Thomson v. Two Rivers, 63 F. R. 120; Strater v. Keyes, 69 F. R. 619; American Fibre Chamois v. Buckskin, 72 F. R. 508; Chicago v. Charles Pope, 84 F. R. 977; Streator v. Wire Glass, 97 F. R. 950; Johnson v. Foos, 141 F. R. 73; Pressed Prism v. Continuous, 150 F. R. 355; American Graphophone v. Universal, 151 F. R. 595; Westinghouse v. Beacon, 95 F. R. 462; Byerly v. Cleveland, 31 F. R. 73; Daniel Green v. Dolgeville, 210 F. R. 164; Consolidated v. Hassam Paving, 227 F. R. 436. Utilizing all waves in wireless. Marconi v. National, 213 F. R. 815.

[41]Eastern Paper Bag v. Standard, 30 F. R. 63; German-American v. Erdrich, 98 F. R. 300; Diamond v. Dean, 111 F.

in[42] character of product. But the mere altering of sequence of steps or the steps themselves such as any chemist or one skilled in the art would be likely to devise is not[43] patentable nor does it avoid[44] infringement.

Even in a mechanical process the adding of a new[45] step, or the

R. 380; Universal Brush v. Sonn, 146 F. R. 517; Cameron v. Village, 159 F. F. 453; Malignani v. Hill Wright, 177 F. R. 430; Moore Filter v. Tonopah, 201 F. R. 532; Coal and Coke v. Ernst, 212 F. R. 434; 219 F. R. 898; Ex parte Wetherell, 1869 C. D. 87; Tilghman v. Proctor, 102 U. S. 707; Ex parte Blumer, 72 O. G. 1783.

[42]Wolff v. E. I. Du Pont, 134 F. R. 863; Victor v. American Gramophone, 189 F. R. 359; Standard Asphalt v. American, 203 F. R. 508; Goodwin v. Eastman, 213 F. R. 231; McClurg v. Kingsland, 1 How. 202; Irish v. Knapp, 18 O. G. 735; R. Thomas v. Elec. Porcelain, 111 F. R. 473; United Nickel v. Manhattan, 4 Ban. and A. 173; Pacific v. Bingham, 62 F. R. 281; Horn v. Bergner, 68 F. R. 428; U. S. Mitis v. Carnegie, 89 F. R. 343; Hemolin v. Harway, 131 F. R. 483; Johnson v. Foos, 141 F. R. 73. Polishable wire glass, Schmertz v. Pittsburgh, 168 F. R. 73; Schmertz v. Western, 178 F. R. 973; 178 F. R. 977. Bleached untainted flour. Naylor v. Alsop, 168 F. R. 911.

[43]Peters v. Chicago, 215 F. R. 724; Ex parte Mason, 1871 C. D. 182; Ex parte Taylor, 1871 C. D. 309; Ex parte Leggett, 2 O. G. 199; Adamson v. Dederick, 2 O. G. 523; Ex parte Hibbard, 4 O. G. 54. When old in almost the same art. Meyer v. Pritchard, 7 O. G. 1012. Ex parte Holcomb, 16 O. G. 48; Ex parte Spear, 16 O. G. 1502; Mond v. Commissioner Patents, 91 O. G. 1437; Ex parte Wickers, 124 O. G. 1521; 129 O. G. 2074; In re Wright, 151 O. G. 1015; In re Droop, 133 O. G. 517; In re White, 136 O. G. 1771; Zimmerman v. Advance, 232 F. R. 866; Union Paper Bag v. Waterbury, 70 F. R. 240; American Fibre Chamois v. Port Huron, 72 F. R. 516; Cerealine v. Bates, 101 F. R. 272; Stuart v. Auger, 149 F. R. 748; Highland v. Schmertz, 178 F. R. 944. Compare Schmertz v. Western, 178 F. R. 973; 178 F. R. 977; Sanford Mills v. Mass. Mohair, 119 F. R. 355; Farrel v. United Verde, 121 F. R. 552. Making a new form of rubber ring. Coldren v. Empire, 175 F. R. 361; Fried. Krupp v. Midvale, 191 F. R. 588. Singeing dyed goods not patentable. Sarfert v. Chipman, 194 F. R. 113. Hulling in successive machines each set closer, not patentable process. Ball v. Coker, 210 F. R. 278. Compare Ex parte Shippen, 8 O. G. 726.

Reducing quantity of re-agents. Hyde v. Minerals, 214 F. R. 100, reversed 242 U. S. 261.

[44]General v. Garrett, 146 F. R. 66; Pressed Prism v. Continuous, 150 F. R. 355; Malignani v. Germania, 169 F. R. 299; General Electric v. Hill-Wright, 174 F. R. 996, 174 F. R. 1013; Malignani v. Hill-Wright, 177 F. R. 430; Coal and Coke v. Ernst, 212 F. R. 434; 219 F. R. 898; National v. Flexible Conduit, 215 F. R. 388; U. S. Frumentum v. Lanhoff, 216 F. R. 610; Chadeloid v. Thurston, 220 F. R. 685; Hitchcock v. American, 227 F. R. 227; Kintner v. Atlantic, 230 F. R. 829; Hoffman v. Aronson, 4 Fish. 456; Hammerschlag v. Bancroft, 32 F. R. 585; N. Y. v. Elmira, 82 F. R. 459; U. S. Mitis v. Carnegie, 89 F. R. 343. But there is no infringement where omitted steps modify others. U. S. Glass v. Atlas, 90 F. R. 724. Such as expanding an inner instead of compressing an outer tube. Burdon v. Williams, 128 F. R. 927. But not in a highly developed knit goods art. Kahn v. Starrells, 131 F. R. 464. But in a highly developed art the order of steps is vital. Dieckmann v. Milwaukee, 174 F. R. 150.

[45]German-American v. Loew, 155 F. R. 124; 164 F. R. 855; Byerley v. Sun, 184 F. R. 455; Moore v. Tonopah, 201 F. R. 532; Hassam Paving v. Consolidated, 215 F. R. 114; National v. Flexible Conduit, 215 F. R. 388; Wallerstein v. Liebmann, 215 F. R. 915; McCormick v. Medusa, 222 F. R. 288; Shaw v. Colwell, 11 F. R. 711; Guarantee v. New Haven Gas Light, 39 F. R. 268. Fumigating at night not patentable over

substituting of a new[46] step for an old step makes the new[47] process patentable if it produces a radically new result. The new process may, however, infringe[48] the old process. Sometimes, however, especially in an art which is evolving rather rapidly, it is difficult to decide what is patentably a[49] new step or a new result which will confer patentability, because the mere increasing of the degree of a step, or doing it by ma-

day, though better. Wall v. Leck, 61 F. R. 291, 66 F. R. 552. Filtering and adding a coagulant. N. Y. v. Jewell, 61 F. R. 840; Schwartzwalder v. N. Y., 66 F R. 152. Even so simple a one as using a rubber pinch-cock. General Electric v. Hill-Wright, 174 F. R. 996; General Electric v. Germania, 174 F. R. 1013. Molding wet concrete in absorbent sand. Emerson and Norris v. Simpson Bros., 188 F. R. 808. Artificially propelling sand for sand blast. Tilghman v. Morse, 1 O. G. 574.

[46]Ex parte Waterman, 17 O. G. 451; Ex parte Butz, 67 O. G. 677; New Process v. Maus, 122 U. S. 431; Merrell v. Powdered Milk, 215 F. R. 922; Electric v. Pittsburgh, 125 F. R. 926; Pressed Prism v. Continuous, 150 F. R. 355; Naylor v. Alsop, 168 F. R. 911; Clinton v. Wright, 65 F. R. 425; reversed, 67 F. R. 790; Everett v. Haulenbeek, 68 F. R. 911. But not if the same step is analogous elsewhere, Evans v. Suess, 86 F. R. 779, but see dissent; Rawson v. Western, 118 F. R. 575. Making linoleum spongy to make it adhere is novel. Melvin v. Thomas Potter, 91 F. R. 151. Even if the new step is merely making the step more perfect. Hedden v. Eaton, 11 Fed. Cas. 1019. Building up by overlapping, patentable over making plastic mass. Mica Insulator v. Union, 137 F. R. 928. Using an absorbent mold to cast cement blocks. Donaldson v. Roksament, 170 F. R. 192; 176 F. R. 368; Donaldson v. Marbolith, 173 F. R. 83; Emerson v. Simpson, 202 F. R. 747. Making tinted asphalt roofing. Standard Paint v. Bird, 175 F. R. 346. Curing rubber by steam. Carew v. Boston, 1 O. G. 91. Grinding pulp across grain. Miller v. Androscoggin Pulp, 1 O. G. 409. Saturating a stone by forcing through, differs from forcing into. Ransome v. Norris, 2 O. G. 295.

[47]R. Thomas v. Electric, 111 F. R. 923; Victor v. American Gramophone, 189 F. R. 359; San Francisco v. Beyrle, 195 F. R. 516; Merrell v. Natural, 217 F. R. 578; Cochrane v. Deener, 94 U. S. 780; Klein v. Park, 13 O. G. 5; Ex parte Frasch, 77 O. G. 1427. Compare Morton v. N. Y. Eye, 2 Fish. 320; Frankfort Whiskey v. Mill Creek, 37 F. R. 533; Hake v. Brown, 37 F. R. 783; but see 44 F. R. 283; Maryland Hominy v. Baltimore, 46 F. R. 773; Watson v. Stevens, 51 F. R. 757. Rolling spirally. Simmonds v. Hathorn, 90 F. R. 201; 93 F. R. 958. To regulate temperature is a new step, even if only in a new way. Combustion v. Worcester, 190 F. R. 155. The new step may be only part of an old step. Perkins Glue v. Solva, 223 F. R. 792.

[48]Bell v. Gray, 15 O. G. 776; Tilghman v. Proctor, 102 U. S. 707. Compare Goodyear v. Dunbar, 1 Fish. 472.

[49]Universal Brush v. Sonn, 154 F. R. 665; U. S. Repair v. Standard, 95 F. R. 137; United Tunnel v. Interborough, 207 F. R. 57; International Tooth v. Gaylord, 140 U. S. 55. In re Butterfield, 108 O. G. 1589. Kintner v. Atlantic, 230 F. R. 829; National Tube v. Spang, 125 F. R. 22; 135 F. R. 351. Thomson v. Salem, 140 F. R. 445; Johnson v. Tidewater, 50 F. R. 90. A blank of a different shape to start with, may make a new step. Clement v. Upson, 50 F. R. 538. Mere adjustment of a well known burner is not patentable. Penna. v. Cleveland, 150 F. R. 583.

[50]Conroy v. Penn., 155 F. R. 421; 159 F. R. 943; Farrel v. United Verde, 121 F. R. 552; Fried. Krupp v. Midvale, 191 F. R. 588; Corning v. Burden, 12 How. 252; Moulton v. Com. of Patents, 61 O. G. 1480; Ex parte Colton, 101 O. G. 2285; Dreyfus v. Searle, 124 U. S. 60; Marchand v. Emken, 132 U. S. 195; Burr v. Cowperthwaite, 4 Blatschf. 163; Rubber v. India, 35 F. R. 498; Commercial v. Fairbank, 27 F. R. 78; Rochester v. Schaefer, 46 F. R. 190. Doing in a single machine the old steps of several machines. Appleton

chine instead of hand, is[50] not patentable unless a different[51] kind of result is obtained, and not merely[52] increased or beneficial result.

A process of preserving fish which turned on the discovery of the properties of an inner skin was[53] patentable, whereas a process of baling cotton which was based on a false theory[54] was held unpatentable. A process of making oils or heating them in an old way till they answered to a certain flash test was held[55] patentable, but on the border line of patentability.

Perhaps the clearest discussion of unsuspected properties as a test of novelty is found in the decision on the steel tempering patent which was held[56] void on the theory that the alleged novelty merely consisted in carrying forward an old idea to increase an old result. It should be noted that the court held the patent would have been valid if the carrying forward of the patented process to a less degree would have produced a result which differed from the old result in[57] nature rather than in degree only. Some analogous decisions will be found in connection with electrical[58] patents.

v. Starr, 51 F. R. 284; 60 F. R. 411. For degree of cooling see, in re Chase, 146 O. G. 960.

[51]Ex parte Champney, 60 O. G. 1051; Musgrave v. Commr. Patents, 78 O. G. 2047; Byerley v. Barber, 230 F. R. 995; Lee v. Upson, 42 F. R. 530; 43 F. R. 672; Tannage v. Zahn, 66 F. R. 986; 70 F. R. 1003; Vaile v. Buckeye Iron, 55 F. R. 652; National Elec. Signal v. United Wireless, 189 F. R. 727. Extinguishing fires by carbonic charged water patentable. Graham v. Johnston (Fire Extinguisher Case), 21 F. R. 40. Imitation onyx anticipated. Arlington v. Celluloid, 97 F. R. 91. Avoiding a seam is a new result. Burdon v. Williams, 128 F. R. 927. Rolling prismatic glass is not a new process when rolling ribbed glass is old. Daylight v. American, 142 F. R. 454. But compare Pressed Prism v. Continuous, 150 F. R. 355.

[52]Bethlehem v. Niles, 166 F. R. 880; Lumber v. Nestor, 178 F. R. 927; Eastman v. Getz, 84 F. R. 458; Alden v. Brown, 24 F. R. 787; U. S. v. Selma Fruit, 195 F. R. 264; Gilbert v. Watzelham, 197 F. R. 315; Peters v. Chicago, 200 F. R. 774; General Elec. v. Butler, 205 F. R. 42; Arnold v. Pettee, 3 App. Com. Pats. 353; Burrell v. Elgin, 96 F. R. 234. But see U. S. Mitis v. Carnegie, 89 F. R. 343; Wrapping biscuits. Union v. Peters, 125 F. R. 603.

[53]Crowell v. Harlow, 1 F. R. 140. Compare,—utilizing the increased gravity of water holding suspended starch, to separate hulls from germs of corn. Chicago v. Charles Pope, 84 F. R. 977.

[54]Rembert v. American, 129 F. R. 355. Compare Cleveland v. Detroit, 131 F. R. 740. Compare Potthoff v. Hanson, 174 F. R. 983. Compare Lumber v. Nester, 178 F. R. 927. Compare Harrisburg v. N. Y., 217 F. R. 366. Compare Detmold v. Reeves, 1 Fish. 127.

[55]Everest v. Buffalo Lubricating, 20 F. R. 848; 22 F. R. 252. Compare Ex parte Campbell, 14 O. G. 83.

[56]Bethlehem v. Niles, 166 F. R. 880. Compare Hyde v. Minerals, 214 F. R. 100; reversed 242 U. S. 261. Compare contra General Electric v. Hoskins, 224 F. R. 464. Compare Lovell v. Cary, 147 U. S. 622. See hat knitting and finishing process. Kahn v. Starrells, 131 F. R. 464; reversed 135 F. R. 532.

[57]Compare Allen Evaporating v. Bowen, 24 F. R. 787. Compare Edison v. Allis, 191 F. R. 837. Minerals Separation v. Hyde, 242 U. S. 261; Minerals Separation v. Miami, 237 F. R. 609.

[58]Westinghouse Elec. v. Dayton, 106 F. R. 729. A method of operating mo-

In other arts it is held that builders house interior finish prepared elsewhere is not[59] patentable over the ordinary finish built in place. So using a "predetermined" quantity or properly "regulated"[60] quantity is not a patentably new process so far as definition by such phrases is concerned.

While the result obtained, often is controlling[61] in deciding patentability, a process even though producing a tangible product often is patentable though its product is not[62] patentable, or apparently not new and[63] vice versa. So a process may be patentable although all its steps are old if the new sequence or bringing the processes[64] together produces a new or improved[65] result. Omitting a step pre-

tors which depends on a hitherto unutilized though known principle, is patentable and construed broadly. Westinghouse v. Stanley, 133 F. R. 167; Tesla v. Scott, 97 F. R. 585; Dayton v. Westinghouse, 188 F. R. 562; Westinghouse v. N. E. Granite, 103 F. R. 951; Westinghouse v. Electric, 133 F. R. 396. But a patent to a mere electrical theory of operation is void. Manhattan v. Helios Upton, 135 F. R. 785.

[59]Roehr v. Bliss, 82 F. R. 445; 98 F. R. 120.

[60]De Lamar v. De Lamar, 117 F. R. 240; but see dissent. Lauman v. Urschel, 136 F. R. 190; Burr v. Cowperthwaite, 4 Blatschf, 163; Burr v. Duryee, 1 Wall. 531. Compare Moore Filter v. Tonopah, 201 F. R. 532. Compare in re Coulton, 104 O. G. 577. But to use all the waves in wireless telegraphy was patentable. Nat. Elec. Sig. v. United Wireless, 189 F. R. 727. Controlling temperature, etc., makes new process. Combustion v. Worcester Gaslight, 190 F. R. 155. A gentle impact, Chisholm v. Johnson, 106 F. R. 191; reversed 115 F. R. 625. But see dissent and Chisholm v. Fleming, 133 F. R. 924.

[61]Guarantee v. New Haven Gaslight, 39 F. R. 268; Standard Asphalt v. American, 203 F. R. 508; Merrell v. Powdered, 222 F. R. 911; Merrell v. Natural, 222 F. R. 913; Western Glass v. Schmertz, 185 F. R. 788. Elimination of troublesome by-product. Combustion v. Worcester Gaslight, 190 F. R. 155. Better sheets of celluloid. Celluloid v. Am. Zylonite, 31 F. R. 304. Better charging with carbon dioxide. Zinsser v. Kremer, 39 F. R. 111. A slight modification of an old process is patentable if it produces a new result, where the old process was not workable on the material. Ex parte McMurray, 8 O. G. 473. But compare Ex parte Crecelius, 116 O. G. 2531; Ex parte Paterson, 116 O. G. 2533. Compare in re Welch, 125 O. G. 2767. For infringement see Herzog v. Keller, 234 F. R. 85.

[62]Tucker v. Sargent, 9 F. R. 299; Hake v. Brown, 37 F. R. 783; Schwartz v. Housman, 88 F. R. 519; R. Thomas v. Electric, 111 F. R. 923. Pressed prism v. Continuous, 150 F. R. 355; Fried. Krupp v. Midvale, 191 F. R. 588; American Wood Paper v. Fiber, 23 Wall. 566.

[63]Cottle v. Krementz, 31 F. R. 42; Howe v. Abbott, 2 Robb. 99.

[64]Making silver plated iron spoons. Wallace v. Noyes, 13 F. R. 172. But not finishing shoe counters by molding by each of two old processes. Moffitt v. Rogers, 8 F. R. 147; 106 U. S. 423; Moffitt v. Cavanagh, 17 F. R. 336. But not if the new step is in effect the mere speeding up of an old process. Highland v. Schmertz, 178 F. R. 944. Compare Schmertz v. Western, 178 F. R. 973; 178 F. R. 977.

[65]Wilcox v. Bookwalter, 31 F. R. 224; N. Y. Grape Sugar v. Buffalo, 18 F. R. 638; John R. Williams v. Miller, 107 F. R. 290; Warren Featherbone v. American, 133 F. R. 303; German-Am. v. Loew, 155 F. R. 124; 164 F. R. 855; Edison v. Allis, 191 F. R. 837; Moore Filter v. Tonopah, 201 F. R. 532; Safety Armorite v. Mark, 207 F. R. 351; Mowry v. Whitney, 14 Wall. 620; Ex parte Perkins, 16 O. G. 1098; New Process v.

viously thought[66] necessary may be patentable. In other words each step must be considered in the light of other[67] steps and not if it stood alone. Infringement likewise will be found where there is a mere[68] rearrangement of steps provided this rearrangement of steps does not depend on a new theory of operation.

The wording of a specification may be controlling, however, in determining the identity[69] of processes and of analogous inventions, especially electrical[70] inventions. It is worth noting that very few patents have been held to be "aggregations"[71] where any chemical step was asserted to be a novel feature of the process, or the ingredients of a composition had any chemical relation to each other. A method of bookkeeping[72] or advertising or doing business seems to be unpatentable, but slight "manufactures,"[73] or mechanical aids to bookkeeping have been held patentable even when the utility largely depended on the fact that these aids were of mental utility.

Maus, 122 U. S. 413; Uhlman v. Arnholdt and Schaefer Brewing Co., 53 F. R. 485; Delaware Metal Refinery v. Woodfall, 55 F. R. 988; Victor Talking v. Am. Gramophone, 189 F. R. 359. But the steps must in some way coöperate. Gloucester Isinglass v. Le Page, 30 F. R. 370. But not if the process is obvious given the desired result. See Electrical regulation. General Elec. v. Winona, 188 F. R. 77. But see Westinghouse v. Dayton, 106 F. R. 729. Pressing and gluing or sawing to form interlocks in wood pulleys is not patentable. Dodge v. Collins, 106 F. R. 935.

[66]Lawther v. Hamilton, 124 U. S. 1; Pacific v. Bingham, 62 F. R. 281; Bullock v. Crocker, 141 F. R. 101; Contra Tompkins v. St. Regis, 226 F. R. 744. But not where omitted in an analogous art. Needham v. Washburn, 7 O. G. 649. But see Smith v. Pittsburgh Gas, 42 F. R. 145.

[67]Moore Filter v. Tonopah, 201 F. R. 532; Mowry v. Whitney, 14 Wall. 620; Ex parte Katleyer, 57 O. G. 1127; Snow v. Tapley, 13 O. G. 548; Ex parte Sommer, 58 O. G. 1255; Ex parte Rudd, 68 O. G. 535. Compare Appert v. Schmertz, 84 O. G. 508. Compare Sadtler v. Carmichael v. Smith, 86 O. G. 1498. Expanded Metal v. Bradford, 214 U. S. 366; In re Harris, 170 O. G. 484. Compare MacArthur v. Simplex, 230 F. R. 648; Crescent Brew. v. Gottfreid, 128 U. S. 158; Barrow v. Wetherill, MacArthur, 315.

[68]Downs v. Teter-Heany, 150 F. R. 122. Caunt v. United, 132 F. R. 976. But not if the state of the art is highly developed. Boneless v. Roberts, 12 F. R. 627. Nor if the steps are alternately mechanical and chemical. Tonopah v. Vincent, 212 F. R. 163.

[69]Standard Paint v. Bird, 218 F. R. 373; Hide Ite v. Fiber, 226 F. R. 34; Klein v. Russell, 19 Wall. 433.

[70]Thomson Houston v. Wagner, 126 F. R. 170; Weintraub v. Hewitt, 154 O. G. 254; Kruh v. Thomas, 180 O. G. 1396.

[71]Ex parte Lowry, 1869 C. D. 85; Rice v. Burt, 17 O. G. 799; In re Harris, 170 O. G. 484; In re Merrill, 199 O. G. 618; Wilson v. Hunter, 150 U. S. 566; U. S. Repair v. Assyrian, 100 F. R. 965 See dissenting opinion in Chicago v. Charles Pope, 84 F. R. 977. Electrical distributing system held aggregation. Salem v. Thomson, 144 F. R. 974. But see Westinghouse v. Allis, 176 F. R. 352.

[72]Berardini v. Tocci, 190 F. R. 329; Hotel v. Lorraine, 155 F. R. 298; 160 F. R. 467; Ex parte Berolzheimer, 1870 C. D. 33; Ex parte Turner, 66 O. G. 1593; Ex parte Moeser, 118 O. G. 590; 123 O. G. 655; In re Tallmadge, 174 O. G. 1219; Ex parte Dixon, Fed. Cas. 3927; Ex parte Bierce, 11 O. G. 1108.

[73]Johnson v. Johnson, 60 F. R. 618.

Under the United States patent laws it seems settled that merely utilizing waste material is not[74] patentable unless the steps in such utilization are patentably new in themselves. Such a holding is probably a development of the doctrine that it is not patentable to apply an old[75] process to material analogous to that formerly used in the old process; or use analogous materials[76] on an old substance.

[74]Reforging worn wheels. Hansen v. Slick, 216 F. R. 164; 230 F. R. 627; In re Maule, MacArthur, 271.

[75]New Process Fermentation v. Koch, 21 F. R. 508; Gloucester Isinglass v. Le Page, 30 F. R. 370; Phillips v. Kochert, 31 F. R. 39; Zinsser v. Krueger, 48 F. R. 296; Bainbridge v. Kitchell, 57 F. R. 231; Union Paper Bag v. Waterbury, 58 F. R. 566; Bowman v. De Grauw, 60 F. R. 907; Fry v. Rockwood, 90 F. R. 494; 101 F. R. 723; General Electric v. Yost, 139 F. R. 568; Eisenstein v. Fibiger, 160 F. R. 686; Bettendorf v. J. A. Little, 123 F. R. 433; Wolff v. E. I. Du Pont, 134 F. R. 863; Tompkins v. St. Regis, 226 F. R. 744; Union Paper Collar v. Van Deusen, 23 Wall. 530; Ex parte Howell, 9 O. G. 921; Brown v. Piper, 91 U. S. 37; Huttner v. Knox, 14 O. G. 118; Slade v. Blair, 17 O. G. 261; Ansonia Brass v. Electrical, 144 U. S. 11; Lovell v. Cary, 147 U. S. 623; In re Luten, 143 O. G. 1110; In re Blackmore, 145 O. G. 258; Kennedy v. Beaver, 232 F. R. 477; Waterman v. Thomson, 2 Fish. 461. Cutting wood anticipates sawing diamonds. Wood v. Kahn, 189 F. R. 400; 198 F. R. 403. Making rail joints. Falk v. Missouri, 103 F. R. 295. Water cooling a saw cutting celluloid is anticipated by ordinary water cooling tools. Celluloid v. Noyes, 25 F. R. 319. Resetting teeth in old card clothing. Brummit v. Howard, 3 F. R. 801. But cigarette making is not analagous to fuse making, etc. Bonsack v. Elliot, 63 F. R. 835; 69 F. R. 335; 73 F. R. 834; nor smelting aluminum to ordinary electrolysis. Pittsburg v. Cowles, 64 F. R. 125. But soda water is to beer. Zinsser v. Krueger, 45 F. R. 572. Leather not analogous to gelatine. Tannage v. Zahn, 70 F. R. 1003; Adams v. Tannage, 81 F. R. 178; Tannage v. Donallen, 93 F. R. 811. Polishing nuts by tumbling. Pratt v. Thompson, 83 F. R. 516. Precipitating refuse "tank water." National v. Swift, 104 F. R. 87; National v. American, 135 F. R. 809. But treating a complex dyewood extract is patentable over treating the pure dye. Hemolin v. Harway, 138 F. R. 54. But a different problem makes the analogy disappear. National Enameling v. N. E., 139 F. R. 643. Old process of heating vapor lamp, not new because now a Welsbach mantle is used. Pennsylvania v. Cleveland, 140 F. R. 348. Grinding and winnowing coffee not patentable. Baker v. Duncombe, 146 F. R. 745. Typewriting a new stencil sheet is not a new process. A. B. Dick v. Henry, 160 F. R. 690. Bleaching flour is not analogous to oil. Naylor v. Alsop, 168 F. R. 911. Soda Water analogous to beer. Golden Gate v. Newark, 130 F. R. 112. A flat sound record is not analogous to a disk one. American Gramophone v. Universal, 151 F. R. 595. Working on natural instead of artificial teeth. Carmichael v. Jackson, 192 F. R. 937. Treating cement is not analogous to paper making. Asbestos v. H. W. Johns, 184 F. R. 620; Asbestos v. Rock, 217 F. R. 66. Nor is salt to milk. Merrell v. Powdered milk, 215 F. R. 922; 222 F. R. 911; Merrell v. Natural, 222 F. R. 913. Merely softening a material to fill a cavity is not patentable. North American Chemical v. Keno, 227 F. R. 63. A car wheel is not analogous to other castings in annealing. Mowry v. Whitney, 14 Wall. 620. But casting a stove cover is analogous. Ex parte Little, 1869 C. D. 35. Cutting a paper collar out of sheets just the right size and in a way common to linen, not patentable. Snow v. Taylor, 14 O. G. 861. Nor to apply to a specific metal a process old to a group. Mond v. Comr. Pats., 91 O. G. 1437. Compare Busch v. Jones, 184 U. S. 599. Compare Morton v. N. Y. Eye, 2 Fish. 230. But see Poillon v. Schmidt, 3 Fish. 476.

[76]Electric Boot v. Little, 138 F. R. 732; Ohio Varnish v. Glidden, 215 F. R. 902; In re Chase, 135 O. G. 895; Western v. Ansonia, 114 U. S. 447; Miller v. Foree, 116 U. S. 22. But see Rumford v. Hecker, 3 O. G. 353.

A process is not patentable till means have been invented capable of carrying it out, and these means must be obvious from the prior art or adequately described in the[77] specification. All claims must be based on the nomenclature of the[78] specification and the tests set up therein are vital. Conversely a process patent is not anticipated merely because a device[79] existed, and might have been used to carry it out, or by a machine incapable of completely[80] carrying out a process, or by a description unless the description is[81] clear and exact enough to enable

77Downton v. Yeager Milling, 1 F. R. 199; Libbey v. Mt. Washington Glass 26 F. R. 757; Celluloid v. Russell, 37 F. R. 676; Kennedy v. Solar, 69 F. R. 716; National Chemical v. Swift, 100 F. R. 451; Matheson v. Campell, 78 F. R. 910. The utility must be commercial or the patent will be construed narrowly. Donner v. Am. Sheet, 165 F. R. 199; Ballou v. Potter, 110 F. R. 969; Standard Paint v. Bird, 175 F. R. 346; Freid. Krupp v. Midvale, 191 F. R. 588; Peters v. Chicago Biscuit, 200 F. R. 774; Wood v. Underhill, 5 How. 1; Klein v. Russell, 19 Wall. 433; Andrews v. Carman, 9 O. G. 1011; Kilbourne v. Bingham, 50 F. R. 697; Stevens v. Seher, 81 O. G. 1932; In re Blackmore, 140 O. G. 1209; Expanded Metal v. Bradford, 214 U. S. 366; Western v. Ansonia, 114 U. S. 447; Lawther v. Hamilton, 124 U. S. 1; Béné v. Jeantet, 129 U. S. 683; Allen v. Hunter, 6 McLean, 303; Detmold v. Reeves, 1 Fish. 127; Goodyear v. Wait, 3 Fish. 242; Gold v. U. S., 3 Fish. 489. In a manufacture. A. R. Mosler v. Lurie, 200 F. R. 433. Proportions in a composition. Francis v. Mellor, 1 O. G. 48. But dies from the prior art cannot be read into the specification. Ex parte Ingersoll, 15 O. G. 389. Compare ex parte Barney, 53 O. G. 1569. Compare Marconi v. Shoemaker, 131 O. G. 1939. Compare Townsend v. Thullen, 142 O. G. 1116. Compare in re Mraz, 164 O. G. 978. Compare Slingluff v. Bolin, 182 O. G. 720; 182 O. G. 975.

78Smith v. Murray, 27 F. R. 69; Chemical v. Raymond, 68 F. R. 570; 71 F. R. 179; Westinghouse v. Montgomery, 153 F. R. 880; Arnold v. Phelps, 20 F. R. 315; Matheson v. Campbell, 78 F. R. 910. Tests are to be interpreted in light of common sense; stability is good test though not true if pushed to the limit. "Practically free" though still somewhat crude. Parke Davis v. H. K. Mulford, 189 F. R. 95.

79Clinton v. Wright, 65 F. R. 425; Loew v. German American, 164 F. R. 855; Karfiol v. Rothner, 165 F. R. 923; Cochrane v. Deener, 94 U. S. 780; Bruff v. Ives, 11 O. G. 924; Carnegie v. Cambria, 185 U. S. 425; New Process v. Maus, 122 U. S. 412; Graham v. Johnston (Fire Extinguisher Case), 21 F. R. 40; Frankfort Whiskey v. Mill Creek, 37 F. R. 533; Chase v. Fillebrown, 58 F. R. 374. Compare Appleton v. Ecaubert, 62 F. R. 742; 67 F. R. 917. A fabric is not anticipated by a machine which might have been used to make it. General Knit v. Steber, 194 F. R. 99.

80Vermont Farm v. Gibson, 46 F. R. 488; Chisholm v. Fleming, 133 F. R. 924; Chisholm v. Randolph, 135 F. R. 815; Chisholm v. Canastota, 135 F. R. 816; Uhlman v. Arnholdt and Schaefer, 53 F. R. 485. Sizing machine lacking doctor bar did not anticipate waxing process. Hammerschlag v. Scamoni, 7 F. R. 584. Hammerschlag v. Garrett, 9 F. R. 43. But the process of the machine need not have been absolutely identical to constitute anticipation,—curing fish anticipated pasteurizing beer. Model Bottling v. Anheuser Busch, 190 F. R. 573. Where a patent was for the process of using certain dies, and these were proved in prior use, the process patent is void. Gunn v. Savage, 25 F. R. 101. A storage battery element is not anticipated by an unsuccessful device. Electric Storage v. Philadelphia, 211 F. R. 15. But the discovery of the true operative theory does not make an old process patentable. In re Moulton, 191 O. G. 588; and in re Chapman, 198 O. G. 240.

81Cameron v. Village, 159 F. R. 453; Byerly v. Cleveland, 31 F. R. 73; Daniel Green v. Dolgeville, 210 F. R. 164; Mer-

those skilled in the art to obtain commercially the desired result. Neither is an abandoned[82] experiment an anticipation. But a process is not patentable if its novelty resides only in using devices old in[83] analogous

rell v. Powdered Milk, 215 F. R. 922; General Electric v. Hoskins, 224 F. R. 464; Roberts v. Dickey, 1 O. G. 4; Jenkins v. Walker, 1 O. G. 359; Muntz v. Foster, 2 Web. 93; Cahill v. Brown, 15 O. G. 697; Atlantic Giant v. Rand, 16 O. G. 87; Atlantic Giant v. Parker, 16 O. G. 495; Colgate v. Gold, 16 O. G. 583; Stewârd v. American Lava, 215 U. S. 161; In re Decker, 162 O. G. 999; Downton v. Yaeger, 108 U. S. 466; Byerley v. Barber, 230 F. R. 995; Toch v. Zibell, 231 F. R. 711; 233 F. R. 993; Eames v. Andrews, 122 U. S. 40; United Nickel v. Manhattan, 4 Ban. and A. 173; Ex parte Steinmetz, 224 O. G. 363; Hood v. Boston, 21 F. R. 67; Graham v. Johnston (Fire Extinguisher Case), 21 F. R. 40; Jensen v. Keasbey, 24 F. R. 144; Guarantee v. New Haven Gas-Light, 39 F. R. 268; Cary v. Lovell, 31 F. R. 344; Electric Accum. v. Julien, 38 F. R. 117; Chase v. Fillebrown, 58 F. R. 374; Uhlmann v. Bartholomæ, 41 F. R. 132; 53 F. R. 485; German American v. Erdrich, 98 F. R. 300; Bowers v. Von Schmidt, 80 F. R. 122; Bowers v. San Francisco, 91 F. R. 381; Westinghouse v. Saranac, 108 F. R. 221; Dickerson v. Maurer, 108 F. R. 233; Burdon v. Williams, 128 F. R. 927; Gottfried v. Crescent Brewing. 9 F. R. 762; reversed 13 F. R. 479; Pittsburgh Reduction Co. v. Cowles Elec. Smelt., 55 F. R. 301; Blakesley Novelty v. Connecticut Web, 78 F. R. 480. See Emerson v. Simpson Bros., 188 F. R. 808; 202 F. R. 747; German American Filter v. Loew Filter, 103 F. R. 303; Globe Nail v. U. S. Horse Nail, 19 F. R. 819; but see Globe Nail v. Superior, 27 F. R. 450. A testing apparatus does not anticipate using the apparatus for a particular purpose. Everest v. Buffalo Lubricating, 20 F. R. 848. But a prior description is sufficient if it discloses all that the patent discloses. Sewall v. Jones, 91 U. S. 171. A patent showing the result from which it takes only mechanical skill to deduce process anticipates. Ex parte Wheeler, 4 O. G. 3. But a description may be sufficient in view of the state of the art. Cohen v. U. S. Corset, 93 U. S. 366. Compare Deprez v. Bernstein v. Hunter v. Gaulard, 54 O. G. 1711. Compare Macbeth Evans v. General Elec., 231 F. R. 183. For a sufficient anticipation see Stuart v. Auger, 139 F. R. 935. But great detail is not needed. Malignani v. Jaseph Marsh, 180 F. R. 442; German American v. Loew, 103 F. R. 303. In compositions. Badische v. Kalle, 104 F. R. 802. In a composition novelty is found, if the tests indicate novelty. Maurer v. Dickerson, 113 F. R. 870. A description in a prior patent is anticipation even if the patentee never carried it out. Spill v. Celluloid, 22 F. R. 94. A description of a process in a machine patent may be complete. Model Bottling v. Anheuser Busch, 190 F. R. 573. A "paper" patent if clear is a complete anticipation. Hyde v. Minerals, 214 F. R. 100; but see Minerals v. Hyde, 237 F. R. 609.

[82]R. Thomas v. Electric, 111 F. R. 923; Maurer v. Dickerson, 113 F. R. 870; Westinghouse v. Beacon, 95 F. R. 462; Gloucester v. Brooks, 19 F. R. 426; Chadeloid v. Thurston, 220 F. R. 685; Gayler v. Wilder, 10 How. 477; Am. Wood Paper v. Fibre, 23 Wall. 566; Roberts v. Dickey, 1 O. G. 4; Waterman v. Thomson, 2 Fish. 461. But frequent use is not an abandoned experiment. Hentschel v. Carthage, 169 F. R. 114.

[83]Fry v. Rockwood, 90 F. R. 494; Hall v. Ahrend, 110 F. R. 375; 114 F. R. 747; Young v. Burley, 200 F. R. 258; Spirella v. Nubone, 216 F. R. 898; Ex parte Lowe, 1870 C. D. 39; Vinton v. Hamilton, 104 U. S. 485; Ritter v. Atlanta, 234 F. R. 896; Dreyfus v. Searle, 124 U. S. 60; Royden Marble v. Davis, 189 F. R. 622; Marchand v. Emken, 26 F. R. 629. Or using more convenient devices. Phillips v. Kochert, 31 F. R. 39. An anticipation need not include every minor step. Model Bottling v. Anheuser, 190 F. R. 573. Old apparatus handled in a new way does not create a new process if the theory is old. Siemund v. Endelin, 206 F. R. 283. Sand blast is not analogous to driving cows off track with blast of steam. Tilghman v. Morse, 1 O. G. 574. Compare Hoyt v. Horne, 145 U. S. 302.

steps. In other words an invention or the anticipation of an invention does not really exist till reduced to practical[84] form, nor until the utility[85] of the result is realized. If, however, the process has been de facto practiced regularly, even though[86] accidentally, it is anticipated. Perfect operation, however, is not necessary to give validity to a specification, though the directions must produce the desired result, but[87] errors (not vital) may be ignored.

A process is not new because applied to new[88] material unless the

[84]Gloucester Isinglass v. Brooks, 19 F. R. 426; Damon v. Eastwick, 14 F. R. 40; Gage v. Kellogg, 23 F. R. 891; Wickelman v. A. B. Dick, 88 F. R. 264; Burdon v. Williams, 128 F. R. 927. It is not reduced to practice by an experiment which is unsatisfactory to the inventor. Atlantic Giant v. Dittmar, 1 F. R. 328. But abandonment of experiment does not prove unsuccessful results. Royer v. Chicago, 20 F. R. 853. For reduction to practice. Celluloid v. Crofut, 24 F. R. 796. A useless hand made anticipation does not defeat a valuable patent. Lamb v. Hamblen, 11 F. R. 722 Commercial use unnecessary. U. S. v. Edison, 51 F. R. 24. Making a small quantity, but all needed, is not abandonment. U. S. Mineral v. Manville, 125 F. R. 770. Nor anticipated. Baker Lead v. National, 135 F. R. 546. Experimental character of use is negatived by nine years work producing thousands of articles. National v. Lambert, 142 F. R. 164.

[85]Baker Lead v. National, 135 F. R. 546; Dorlan v. Guie, 25 F. R. 816; Carnegie v. Cambria, 185 U. S. 425; John v. Columbia Cotton, 179 F. R. 231; Ajax v. Brady, 155 F. R. 409; Johnson v. Chisholm, 115 F. R. 625; but see dissent, and Chisholm v. Randolph, 135 F. R. 815; Roberts v. Schreiber, 2 F. R. 855. But mere realizing the utility of the process does not make it patentable. Amer. Mercerizing v. Hampton, 147 F. R. 725. But seeing a new utility in an old process does not make that process patentable. Ansonia v. Electrical, 32 F. R. 81. Accidental use no anticipation. Boyd v. Cherry, 50 F. R. 279. So also a product is not patentable which is not new, though it was only occasionally produced before. American v. Bridgewater, 132 F. R. 16. Compare Carborundum v. Electric, 203 F. R. 976. Compare Westinghouse v. Montgomery, 153 F. R. 890. But compare Heroult v. Comr. of Pats., 70 O. G. 784. But see in re Kemper, MacArthur 1.

[86]Tilghman v. Proctor, 102 U. S. 707; Warren v. Evans, 234 F. R. 657; Pittsburgh Reduction v. Cowles Elec. Smelt., 55 F. R. 301. But see Parke Davis v. H. K. Mulford, 189 F. R. 95; Chisholm v. Johnson, 106 F. R. 191; Roberts v. Schreiber, 2 F. R. 855; Dorlan v. Guie, 25 F. R. 816; Libbey v. Mt. Washington Glass, 26 F. R. 757. So also of a composition, a sidewalk experiment does not defeat later road composition. Warren v. Owosso, 166 F. R. 309. For a composition. Munising v. American Sulphite 228 F. R. 700. Compare Richardson v. Leidgen, 77 O. G. 153.

[87]Malignani v. Jasper Marsh, 180 F. R. 442; Michaelis v. Roessler, 34 F. R. 325. Describing the use of glycerine which cannot be used is mere surplusage. McKesson v. Carnrick, 9 F. R. 44. See Matheson v. Campbell, 78 F. R. 910. Error of observation, not repudiating identity may be corrected in a division of an erroneous original. Parke Davis v. H. K. Mulford, 189 F. R. 95. But an erroneous self-contradictory theory is fatal. Potthoff v. Hanson, 174 F. R. 983. So also is describing a utility which applies in cases where the patentable novelty is missing. Andrews v. Carman, 9 O. G. 1011.

[88]Knox Rock-Blasting v. Drake, 53 F. R. 790; Blakesley Novelty v. Connecticut Web, 78 F. R. 480; Wood v. Kahn, 189 F. R. 400; 198 F. R. 430; Phillips v. Kochert, 31 F. R. 39; Lee v. Upson, 42 F. R. 530; 43 F. R. 670; Celluloid v. Russell, 37 F. R. 676; U. S. Repair v. Standard, 87 F. R. 339; Ballou v. Potter, 110 F. R. 969; Young v. Burley, 200 F. R. 258; Miller v. Foree, 116 U. S. 22; Crescent Brew. v. Gott-

new application is revolutionary. The difficulty of applying this distinction is well illustrated in the various decisions on bleaching[89] pyroxlyn, though others are pertinent.

Closely allied to this question, is the question of what are equivalent[90] elements. This problem of equivalents is extremely perplexing both in questions[91] of novelty and in questions of infringement. The

fried, 128 U. S. 158; Pike v. Porter, 3 Fish. 55. Improving flow of oil wells by blasting under a water tamping,—valid. Roberts v. Schreiber, 2 F. R. 855. Process of using ivory anticipates celluloid. Celluloid v. Tower, 26 F. R. 451. But creating a new art is revolutionary. Tannage v. Zahn, 70 F. R. 1003; Tannage v. Adams, 77 F. R. 191. Casting wrought iron is revolutionary. U. S. Mitis v. Midvale, 135 F. R. 103. See also National Enameling v. N. E., 139 F. R. 643. Bleaching walnuts is revolutionary. Fullerton v. Anderson, 166 F. R. 443. Cleaning clay anticipates cleaning rubber. Cowen v. Boston, 214 F. R. 806. Malt is not beer. Wallerstein v. Liebmann, 215 F. R. 915. Making palatable powdered milk is patentably new process. Merrell v. Powdered Milk, 215 F. R. 922; Merrell v. Natural, 217 F. R. 578.

[89]Spill v. Celluloid, 2 F. R. 707; reversed Spill v. Celluloid, 21 F. R. 631.

[90]Spill v. Celluloid, 2 F. R. 707; reversed 21 F. R. 631; 22 F. R. 94; Bruff v. Ives, 11 O. G. 924; Schillinger v. Gunther, 16 O. G. 909; Ex parte Woltereck, 150 O. G. 1041; 151 O. G. 451; Fullerton v. Anderson, 166 F. R. 443; Western v. Schmertz, 185 F. R. 788; Goodwin v. Eastman, 213 F. R. 231; Salts Textile v. Tingue, 227 F. R. 115; Westrumite Co. v. Lincoln Park, 174 F. R. 144; Lange v. McGuin, 177 F. R. 219; Matteawan v. Emmons, 185 F. R. 814; Cleveland Target v. U. S. Pigeon, 52 F. R. 385; Byerley v. Ellis, 190 F. R. 772; Gunn v. Savage, 25 F. R. 101; Byerley v. Standard Asphalt, 189 F. R. 759; Crown Cork v. Brooklyn, 190 F. R. 323; Ferro v. Concrete, 206 F. R. 666; Jones v. Merrill, 8 O. G. 401; Muscan Hair v. American, 1 Fish. 320; In re Braemer, 215 O. G. 323; Wilson v. Hunter, 105 U. S. 566; Mac Arthur v. Simplex, 230 F. R. 648; Byerley v. Barber, 230 F. R. 995; Zimmerman v. Advance, 232 F. R. 866; Herzog v. Keller, 234 F. R. 85; Tompkins v. St. Regis, 236 F. R. 221; Bump's v. Gessler, 236 F. R. 242; Commercial v. Fairbank, 133 U. S. 176; Allen v. Alter, 3 App. Com. Pats. 322; Goodyear v. Central Railroad, 1 Fish. 626; Popenhusen v. N. Y. Gutta, 2 Fish. 80; Gottfried v. Stahlmann, 13 F. R. 673; Hammerschlag v. Wood, 18 F. R. 175; Elec. Accumulator v. N. Y., 40 F. R. 328; Smith v. Pittsburgh Gas, 42 F. R. 145; Holiday v. Pickhardt, 29 F. R. 853; Elec. Accum. v. Julien, 38 F. R. 117. Making oily sawdust with too little oil to stain, see dissenting opinion. Cotto Waxo v. Perolin, 185 F. R. 267. Etching is not the same as cutting. Victor Talking v. Am. Gramophone, 189 F. R. 359. Heating coffee with steam is not the same as heating so that the coffee produces steam. Arnold v. Phelps, 20 F. R. 315. Making part of keyboard with continuous strips, infringes patent for whole keyboard. Celluloid v. Pratt, 21 F. R. 313; overruled Celluloid v. Tower, 26 F. R. 451, which held that in such a process ivory was equivalent of celluloid. Compare Celluloid v. Comstock, 27 F. R. 358. Naming a maximum temperature does not limit the patent to that. Mowry v. Whitney, 14 Wall. 620. Methods of heating asphalt for repair, see U. S. v. Assyrian, 183 U. S. 591. For non equivalent claims see, ex parte Reese, 113 O. G. 849. Compare in interference, Wood v. Duncan, 183 O. G. 1033. Compare Wilson v. Ellis, 211 O. G. 286, and 211 O. G. 957. An improved old hand process does not infringe what is essentially a machine process. Hammerschlag v. Wichelmann, 38 F. R. 430. Old art determines infringement. Edison v. Klaber, 38 F. R. 744. Casting and dipping wax are equivalent, but expanding to fit and casting are not. National v. American, 135 F. R. 809.

[91]Western v. Schmertz, 185 F. R. 788. Talc may avoid a patent covering moist sand. Emerson v. Simpson, 214 F. R. 572. Using dies working differently avoids infringement. Clark v. Kennedy,

whole answer often depends on the prior art, and often cannot be decided only on[92] affidavits for preliminary injunction or demurrer. An equivalent of a substance or step is another having substantially the same[93] effect, but identity of ultimate results of course does not always

11 O. G. 67. But see Peters v. Active, 130 U. S. 626; Hoff v. Iron Clad, 139 U. S. 362; Plummer v. Sargent, 120 U. S. 442; Eames v. Andrews, 122 U. S. 40; Roberts v. Roter, 5 Fish. 295; Cary v. Miller, 34 F. R. 392. "Latent Solvent" Celluloid v. Cellonite, 42 F. R. 900; Rider v. Adams, 57 F. R. 597; Tucker v. Burditt, 5 F. R. 808; Tucker v. Corbin, 5 F. R. 810; Taber v. Marceau, 87 F. R. 871; U. S. Glass v. Atlas, 88 F. R. 493; 90 F. R. 724; Michaelis v. Larkin, 91 F. R. 778. Equivalence must be proved, not left indefinite. National v. Swift, 100 F. R. 451. "Slowly turning" not construed strictly. Alvin v. Scharling, 100 F. R. 87. Universal Brush v. Sonn, 146 F. R. 517; reversed 154 F. R. 665; Malignani v. Jasper Marsh, 180 F. R. 442. "Finishing" is more than removing surplus wax. Two ways of removing bubbles not equivalent. National Phono v. American, 184 F. R. 75. First broad inventor entitled to broad equivalents. Bowers v. Pacific, 90 F. R. 745.

[92] Westrumite Co. v. Lincoln Park, 174 F. R. 144; Lange v. McGuin, 177 F. R. 219; Electric Storage v. Belknap, 112 F. R. 538; Soc. Fabriques v. Luders, 105 F. R. 632; Chinnock v. Patterson, 112 F. R. 531; Celluloid v. Eastman, 42 F. R. 159; Kane v. Huggins, 44 F. R. 287; Lowry v. Cowles, 56 F. R. 488; National v. N. E., 123 F. R. 436; Thomson Houston v. Wagner, 130 F. R. 902; Matteawan v. Emmons, 185 F. R. 814; Byerley v. Ellis, 190 F. R. 772; Gunn v. Savage, 25 F. R. 101; Byerley v. Standard Asphalt, 189 F. R. 759; Crown Cork v. Brooklyn, 190 F. R. 323; Ferro v. Concrete, 206 F. R. 666; Jones v. Merrill, 8 O. G. 401; Muscan Hair v. American, 1 Fish. 320; Whippary v. United, 87 F. R. 215; Westinghouse v. Montgomery, 139 F. R. 868. So also in manufacture. Hogan v. Westmoreland, 154 F. R. 66. But contra where the patent has been adjudicated. Warren v. Montgomery, 172 F. R. 414. But see Travers v. Hammock, 78 F. R. 638. Injunction granted on adjudicated patent. Acme Acetylene v. Commercial, 192 F. R. 321. Also Fireball v. Commercial, 198 F. R. 650. In an adjudicated patent on a composition even an equivalent was covered in an injunction. Treibocher v. Wolf, 214 F. R. 414. But see Risdon v. Medart, 158 U. S. 320. Compare Chase v. Fillebrown, 58 F. R. 374. Contra for an adjudicated patent. Chadeloid v. Daxe, 180 F. R. 1004. Even when the novel step is old in many arts and simple. General Electric v. Campbell, 137 F. R. 600. Injunction granted on an adjudicated patent. Cleveland Target v. U. S., 52 F. R. 385.

[93] Kimball v. Hess, 15 F. R. 393; Adams v. Bridgewater, 26 F. R. 324; Brett v. Quintard, 17 F. R. 529; Michaelis v. Roessler, 34 F. R. 325; Welsbach v. Sunlight, 87 F. R. 221; Welsbach v. American, 98 F. R. 613; Warren v. Dodge, 117 F. R. 860; Schmertz v. Pittsburgh, 168 F. R. 73; Mississippi v. Pittsburgh, 168 F. R. 90. But blasting in ordinary wells did not anticipate blasting deep oil wells under a water tamping. Roberts v. Schreiber, 2 F. R. 855. Using a mechanical control of gas pressure does not infringe a chemical control patent. New Process Fermentation v. Maus, 20 F. R. 725; reversed, 122 U. S. 413. A new shaped blank for welding makes different process. Clement v. Upson, 50 F. R. 538. Walrath v. Pacific, 41 F. R. 883; Smelting and electrolysis. Lowrey v. Cowles, 68 F. R. 354; reversed, 79 F. R. 331. Leaf Tobacco not equivalent of paper. John R. Williams v. Miller, 107 F. R. 290. But using mechanical skill to speed up an old process does not make it infringe a different patentable one. Schmertz v. Western, 188 F. R. 436. Also Goss v. Cameron, 14 F. R. 576. The scope of equivalents depends on the prior art; and where that is wide the scope is narrow. Holstein v. Zeeland, 211 F. R. 462; Goodwin v. Eastman, 213 F. R. 231. A slight change of temperature may be patentably new. Merrell v. Powdered Milk, 215 F. R. 929. A single step process is not the same as a three-step process. Am. Wood Paper v. Fibre, 23 Wall. 566. Heating and heating over a water bath are not

prove[94] identity of process.

The question of identity of invention, therefore, and of scope of claims and disclosures comes up in several forms, one interesting form, though almost impossible to draw valuable broad conclusions from, being the relation of the United States to the foreign[95] patents of the same inventor.

Double[96] patenting has been ruled on in some cases, but is still too unsettled a question to discuss briefly and broadly, aside from the interrelation of process, product and machine. Where an inventor has both a process and an apparatus application pending, abandonment[97] or restriction of one will not effect a patent granted on the other and the same holds true with the relation of[98] foreign to U. S. patents. It is, of course, agreed that while a process invention is a different invention from a machine invention, a process patent must differ from a machine patent more than in substituting[99] the word "method" for the word "means." It has been held that a machine patent may be reissued, or have claims added to it while still pending[100] to cover a process, or a process patent

identical as elements in two claims of one application. Ex parte Ach, 96 O. G. 2411. But pasteurizing by moving bottles through pasteurizing agent is patentable over moving agent past bottles. In re Wagner, 105 O. G. 1783.

94National Phono v. American, 184 F. R. 75; Schmertz v. Western, 188 F. R. 436; Fried. Krupp v. Midvale, 191 F. R. 588. A patent is not infringed by a process depending on steps which the patentee sought to avoid. Tonopah v. Vincent, 212 F. R. 163.

95Brush v. Accumulator, 47 F. R. 48; Accumulator v. Julien, 57 F. R. 605; Westinghouse v. Stanley, 138 F. R. 823; Diamond v. Westinghouse, 152 F. R. 704; Commercial Acetylene v. Acme, 188 F. R. 89; Commercial Acetylene v. Searchlight, 188 F. R. 85; 197 F. R. 908; Victor v. Hoschke, 188 F. R. 326; Victor v. Sonora, 188 F. R. 330; Deprez v. Bernstein v. Hunter v. Gaulard, 54 O. G. 1711; Appert v. Parker, 74 O. G. 1587; Bedford v. Comr. of Pats., 87 O. G. 1611; Tripler v. Linde, 101 O. G. 2288; Leeds and Catlin v. Victor, 213 U. S. 301; Cameron Septic v. Knoxville, 227 U. S. 39; Fireball v. Commercial, 239 U. S. 156; Commercial v. Fairbank, 133 U. S. 176.

96Elec. Accumulator v. Brush, 52 F. R. 130; 47 F. R. 48; Westinghouse v. Electric, 142 F. R. 545; Victor v. Duplex, 177 F. R. 248; Diamond v. Westinghouse, 152 F. R. 704; Mosler v. Mosler, 127 U. S. 354. Compare ex parte Edison, 220 O. G. 1373.

97Saunders v. Miller, 146 O. G. 505; Am. Gramophone v. Gimbel, 234 F. R. 361; Waterbury Brass v. Miller, 5 Fish. 48; Mica v. Commercial, 166 F. R. 440; Acme Acetylene v. Commercial, 192 F. R. 321. Compare Fireball v. Commercial, 239 U. S. 156. See ex parte Stuart, 113 O. G. 850. Nor will cancelling a claim for one affect the other. Bullock v. Crocker, 141 F. R. 101. But see Stearns v. Russell, 85 F. 218.

98Victor Talking v. Hoschke, 188 F. R. 328; Commercial Acetylene v. Searchlight, 188 F. R. 85; same v. Acme Acetylene, 188 F. R. 89; 192 F. R. 321. Compare Fireball v. Commercial, 239 U. S. 156. But see Stearns v. Russell, 85 F. R. 218.

99In re Creveling, 117 O. G. 1167; Leeds and Catlin v. Victor, 213 U. S. 301. In re Rowe, 192 O. G. 519. Compare ex parte Edison, 220 O. G. 1373.

100New v. Warren, 22 O. G. 587; Dederick v. Cassell, 9 F. R. 306; Fitch v. Spang, 140 F. R. 292; Contra James v. Campbell, 104 U. S. 356; Contra ex parte Pfaudler, 22 O. G. 1881; Contra ex parte Lillie, 53 O. G. 2041; Compare

can be[101] reissued to cover a machine though the decisions are conflicting. Separate patents for an electric motor organization[102] and for method of operating the motors even when apparently dependent on the apparatus have been held valid. It has been held that where a machine patent issues, a process[103] patent covering the machine may be valid if applied for a less than two years after the machine patent issues. It has been held that a process patent cannot be reissued to cover a product and[104] contra; the same holds true of reissuing[105] product patents to cover processes. Analogous facts also hold true as to the adding of claims[106] to pending applications. It would seem that since the Courts have had to face specific problems, they have endeavored to settle each case on its merits, irrespective of a purely philosophical view of patent law.

What is new matter or broadening of claims in a reissue[107] is a

Forbes v. Thomson, 53 O. G. 2042. Compare contra Crane v. Meriam, 51 O. G. 1783. Compare Wing v. Anthony, 106 U. S. 142. Contra Eachus v. Broomall, 115 U. S. 429. Contra Heald v. Rice, 104 U. S. 737. Process claims may be added to a machine application. Kirchberger v. Am. Acetylene, 128 F. R. 599.

[101]In re Heroult, 127 O. G. 3217. Contra Scrivener v. Oakland Gas, 22 F. R. 98. But not if patent is void for anticipation. Penn. Elec. v. Conroy, 185 F. R. 511; Ex parte Perkins, 55 O. G. 139; Rietzel v. Harmatta, 161 O. G. 1043. Contra Cleveland v. Detroit, 131 F. R. 740.

[102]Westinghouse Electric v. Dayton, 106 F. R. 724; 118 F. R. 562; Century Electric v. Westinghouse, 191 F. R. 350; Brown v. Thorne, 2 O. G. 388. Compare ex parte Holt, 68 O. G. 536. But see in re Creveling, 117 O. G. 1167. Compare in re White, 136 O. G. 1771, and ex parte Edison, 220 O. G. 1373.

[103]Eastern Paper Bag v. Standard, 30 F. R. 63; McKay v. Dibert, 5 F. R. 587. Compare ex parte Atwood, 44 O. G. 341. But a process application is not a continuation of a machine application which contained no process claims. Model Bottling v. Anheuser Busch, 190 F. R. 573. An analogous situation is in Victor v. American, 140 F. R. 860. But see Meyer v. Sarfert, 96 O. G. 1037.

[104]Asbestos v. H. W. Johns, 189 F. R. 611; Badische Anilin v. Hamilton, 13 O. G. 273; Badische Anilin v. Higgin, 14 O. G. 414. Even in separate patents. Tucker v. Dana, 7 F. R. 213. Compare Asbestos v. H. W. Johns, 184 F. R. 620. Article patent cannot be reissued to cover process of using it. Ex parte Hicks, 16 O. G. 546.

[105]Valid, Asbestos Shingle v. Rock, 217 F. R. 66. Compare Ex parte Wooten, 3 O. G. 521; Goodyear v. Blake, 10 Fed. Cas. 646. Invalid, Giant Powder v. California Powder, 98 U. S. 126. Product reissued for process void. Kelleher v. Darling, 14 O. G. 673. Valid, Tucker v. Burdett, 4 Ban. and A. 569. Asbestos v. H. W. Johns, 189 F. R. 608. Invalid, Vacuum Oil v. Buffalo, 20 F. R. 850. Valid, Providence Rubber v. Goodyear, 9 Wall. 788. Leggett v. Standard Oil, 149 U. S. 287; Cochrane v. Badische, 111 U. S. 293.

[106]Ex parte Ruckrich, 106 O. G. 765; Menden v. Curtis, 117 O. G. 1795; Rietzel v. Harmatta, 161 O. G. 1043; Ex parte Benson, 15 O. G. 512; Ex parte Shalters, 15 O. G. 970; Dewey v. Colby, 75 O. G. 1360; Ex parte Gaylord, 117 O. G. 2366. And a process application will be put into interference with a product one. Finley v. Chapman, 1 O. G. 277.

[107]Kelleher v. Darling, 14 O. G. 673; Am. Middlings v. Atlantic, 15 O. G. 467; Eagleton v. West, 111 U. S. 490; McKnight v. Pohle, 130 O. G. 2069; Stewart v. Am. Lava, 215 U. S. 161; Sovereign v. Lillie, 185 O. G. 830; White v. Dunbar, 119 U. S. 47; Eames v. Andrews, 122 U. S. 40; Gold v. U. S., 3 Fish.

question which depends both on common knowledge and on special facts in the application. This kind of point of view has led one Court to go so far as to say in the Adrenalin[108] case, that they were not prepared to hold synthetic adrenalin would infringe a claim to extracted adrenalin.

A process is not infringed if any claimed step or ingredient is[109] omitted and no equivalent[110] substituted therefor. But avoiding the terms of the claims does not avoid[111] infringement when the process is really the same. The same is true of ingredients of[112] compositions. While the[113] theory of the improvement need not be set forth in the patent or may be erroneously set forth, yet the true theory of opera-

489; Kane v. Huggins, 44 F. R. 287; International Terra Cotta v. Maurer, 44 F. R. 618; Casein v. A. M. Collins, 174 F. R. 341; General Chemical v. Blackmore, 156 F. R. 968; Francis v. Mellor, 1 O. G. 48; Carew v. Boston, 1 O. G. 91; Ex parte Wooten, 3 O. G. 521; Ex parte Hermann, 10 O. G. 856; Russell v. Dodge, 93 U. S. 460; Jones v. McMurray, 13 O. G. 6; Atlantic Giant v. Goodyear, 13 O. G. 45; Wonson v. Peterson, 13 O. G. 548; Kelleher v. Darling, 14 O. G. 673; Atlantic Giant v. Rand, 16 O. G. 87; St. Louis Stamping v. Quinby, 16 O. G. 135. Compare Neill v. Comr. Pats., 82 O. G. 749. Compare ex parte Welch, 93 O. G. 2105. Compare in re Blackmore, 140 O. G. 1209. Compare Slingluff v. Bolin, 182 O. G. 720; 182 O. G. 975.

[108]Parke Davis v. Mulford, 196 F. R. 496.

[109]Hudson v. Draper, 4 Fish. 256; Hammerschlag v. Garrett, 10 F. R. 479; Cotter v. New Haven Copper, 13 F. R. 234; Royer v. Schultz, 40 F. R. 158; Sun Vapor v. Western, 41 F. R. 43; Kennedy v. Solar, 69 F. R. 716; American Fibre Chamois v. Port Huron, 72 F. R. 516; Eastman v. Getz, 77 F. R. 412; Cerealine v. Bates, 77 F. R. 883; Heller v. Bauer, 19 F. R. 96; Matthews v. Iron Clad, 21 F. R. 641; Globe Nail v. Superior, 27 F. R. 450; Commos v. Somers, 49 F. R. 920. But omitting part of a step does not avoid infringement. Hoff v. Iron Clad, 27 F. R. 307; 139 U. S. 362. So, if the specification makes a pump essential one who avoids a pump fails to infringe. Philadelphia v. Davis, 79 F. R. 357. In interferences compare Rosell v. Allen, 92 O. G. 1036. See also note 24.

[110]Pitching barrels by superheated steam does not infringe pitching by burnt air. Gottfried v. Conrad Seipp Brew., 8 F. R. 322; see 128 U. S. 158.

[111]Acme v. American, 206 F. R. 478; United Nickel v. Keith, 5 O. G. 272; Wetherill v. N. J. Zinc, 5 O. G. 460; Burr v. Prentiss, 4 Fed. Cas. 821.

[112]Otley v. Watkins, 36 F. R. 323; Lane v. Levi, 104 O. G. 1898. See also note 24.

[113]National Enameling v. N. E., 139 F. R. 643; Malignani v. Jasper Marsh, 180 F. R. 442; Century Electric v. Westinghouse, 191 F. R. 350; Merrell v. Natural, 217 F. R. 578; Philadelphia Rubber v. U. S., 229 F. R. 150, but see Philadelphia Rubber v. Portage, 227 F. R. 623; Ex parte Mayall, 4 O. G. 582; Warren v. Evans, 234 F. R. 657; Eames v. Andrews, 122 U. S. 40; Cahill v. Beckford, Holmes 48; Minerals Separation v. Miami, 237 F. R. 609; Western Mineral v. Globe, 125 F. R. 770. But when sole novelty lies in the theory in the particular art, failure to set it forth may negative novelty. Steiner Fire Extinguisher v. City of Adrian, 52 F. R. 731. Compare Siebert Cyl. Oil Cup v. Harper Steam Lub., 4 F. R. 328; and ex parte Seibert, 16 O. G. 262. Erroneous, U. S. Mitis v. Midvale, 135 F. R. 103. But a patent to a mere theory of operation is void. Manhattan v. Helios Upton, 135 F. R. 785. If the description is sufficient to enable the process to be worked, the theory is immaterial. Combustion v. Worcester, 190 F. R. 155.

tion will be controlling in deciding questions of both[114] novelty and infringement[115] especially where the empirical steps[116] are old in similar

[114]Hammerschlag v. Judd, 28 F. R. 621; N. Y. Filter v. Niagara, 77 F. R. 900; 80 F. R. 924; N. Y. Filter v. Elmira, 83 F. R. 1013; Kirchberger v. Am. Acetelyne, 128 F. R. 599; Baker Lead v. National, 135 F. R. 546; Chisholm v. Canastota, 135 F. R. 816; Mica v. Commercial, 166 F. R. 440; Fullerton v. Anderson, 166 F. R. 443; Westinghouse v. Toledo, 172 F. R. 371; Casein v. A. M. Collins, 174 F. R. 341; Victor v. Duplex, 177 F. R. 248; Combustion Utilities v. Worcester Gaslight, 190 F. R. 155; German American Filter v. Loew Filter, 103 F. R. 303; Adams and Westlake v. Wilson, 21 F. R. 648; Cary v. Wolf, 24 F. R. 139; Tucker v. Tucker, 10 O. G. 464; Dunkley v. Beekhuis, 190 O. G. 267; In re Moulton, 191 O. G. 588; Graphic Arts v. Photo, 231 F. R. 146; Dolbear v. Am. Telephone, 126 U. S. 1; Lalance and Grosjean v. Habermann, 53 F. R. 375; 55 F. R. 292; Westinghouse v. Sutter, 202 F. R. 759; Electric Storage v. Gould, 204 F. R. 280. Wallerstein v. Liebmann, 215 F. R. 915; Harrisburgh v. N. Y., 217 F. H. 366; Thomson Elec. Welding v. Barney, 227 F. R. 428. Waxing paper by moving coating roll and paper at different speeds, not anticipated by machine to size paper. Hammerschlag v. Scamoni, 7 F. R. 584; Hammerschlag v. Garrett, 9 F. R. 43. Burning wet fuels. Brown v. Thorne, 2 O. G. 388. Compare Schupphaus v. E. I. Du Pont, 204 F. R. 624. Even where the empirical steps are apparently old. Celluloid v. American Zylonite, 26 F. R. 692; 28 F. R. 195. Manufacture of aluminum. Pittsburg Reduction v. Cowles, 55 F. R. 301; 64 F. R. 125. But a patent based on a wrong theory cannot be reissued to claim the right theory. Seibert Cylinder Oil Cup v. Harper, 4 F. R. 328; Marconi v. De Forest, 236 F. R. 942; Electric v. Carborundum, 102 F. R. 618; American Stove v. Cleveland, 158 F. R. 978. The mere formulation of a theory does not make it patentable. Century Elec. v. Wagner, 192 F. R. 564.

[115]American Stove v. Cleveland, 158 F. R. 978; Schmertz v. Western, 195 F. R. 760; Electric Storage v. Gould, 204 F. R. 280; Harrisburgh v. N. Y., 217 F. R. 366; Hide Ite v. Fibre, 226 F. R. 34; Merrill v. Yoemans, 5 O. G. 268; Jones v. Merrill, 8 O. G. 401; Tucker v. Tucker, 10 O. G. 464; United Nickel v. Manhattan, 4 Ban. and A. 173; Electric v. Carborundum, 102 F. R. 618; Westinghouse v. Montgomery, 153 F. R. 880; compare Westinghouse v. Saranac, 113 F. R. 884; compare Westinghouse v. Stanley, 117 F. R. 309; compare Westinghouse v. Orange, 119 F. R. 366. See the limits of composition allowable, Donaldson v. Marbolith, 173 F. R. 88. Ignorance of reactions is no defense. General Bakelite v. Nikolas, 225 F. R. 539; Crown Cork v. Brooklyn Bottle Stopper, 190 F. R. 323; Combustion Utilities v. Worcester Gaslight, 190 F. R. 155; Cary v. Wolff, 24 F. R. 139; Gottfried v. Conrad Seipp Brew., 8 F. R. 322; reversed 128 U. S. 158; New Process Fermentation v. Baltz, 10 F. R. 289; Consol. Bunging v. Peter, 28 F. R. 287; Jackson v. Birmingham, 72 F. R. 269; 79 F. R. 801; Binder v. Atlanta, 73 F. R. 480; United Indurated v. Whippany, 83 F. R. 485; reversed 87 F. R. 251; Westinghouse v. Roberts, 125 F. R. 6; Kirchberger v. Am. Acetylene, 128 F. R. 599; Georgia v. Bilfinger, 129 F. R. 131; Baker Lead v. National, 135 F. R. 546; National v. American, 135 F. R. 809; Fitch v. Spang, 140 F. R. 292; Downes v. Teter-Heany, 150 F. R. 122; Blair v. Jeanette, 161 F. R. 355; Union Carbide v. American, 172 F. R. 136; 181 F. R. 111; Potthoff v. Hanson, 174 F. R. 983; Victor v. Duplex, 177 F. R. 248. Improving an old process by speeding it up may avoid infringement where the theory of operation is different, though the improved old process practically follows the terms of the patent. Schmertz v. Western Glass, 188 F. R. 436. Compare Tucker v. Sargent, 9 F. R. 299. Cold rolling seams in a metal pipe does not infringe a patent based on hot rolling. Root v. Lamb, 7 F. R. 222. Compare Celluloid v. Arlington, 52 F. R. 740.

[116]Cary v. Wolff, 24 F. R. 139; Cary v. Lovell, 24 F. R. 141; 31 F. R. 344; Wickwire v. Wire, 41 F. R. 37; Electric Smelting v. Carborundum, 83 F. R. 492; Schlicht v. Aeolipyle, 117 F. R. 299; Rembert v. American, 129 F. R. 355; U. S. Repair v. Standard, 95 F. R. 137; Gilbert v. Watzelhan, 197 F. R. 315.

arts or processes. The claims, however, must be read in the light of the[117] specification. Adding a new step does not avoid infringement if the[118] theory remains the same. Especially must reliance be placed on the theory of operation in questions of[119] infringement of process patents where other tests are difficult to apply, as where the defendants[120] fail to completely disclose their process. The same considerations apply conversely among others when the question of[121] contributory or direct[122] infringement of process patent is raised by the selling of a machine or manufacture[123] or composition or apparatus usable for the process. Infringement also may be charged though the infringement was possibly[124] accidental in details, if those details contributed to the result. Infringement also is found where goods partly processed when purchased are completed[125] according to a patented process.

117Corn Products v. Douglas, 207 F. R. 571; Carnegie v. Cambria, 185 U. S. 425; Moore Filter v. Tonopah, 201 F. R. 532.

118Lalance and Grosjean v. Habermann, 53 F. R. 380; 55 F. R. 292; Thomson Houston v. Dayton, 137 F. R. 917; Ford v. Tannage, 84 F. R. 644; Clerk v. Tannage, 84 F. R. 643; Electric v. Pittsburgh, 125 F. R. 926; National Enameling v. N. E., 139 F. R. 643; General Electric v. Morgan, 159 F. R. 951. Such as heating by an electric current, instead of external heat. Pittsburgh Reduction v. Cowles Elec. Smelt., 55 F. R. 301. N. Y. v. Elmira, 82 F. R. 459. So broad claims may cover another process where the theory is partly the same. Electric v. Carborundum, 102 F. R. 618.

119Goldie v. Diamond, 64 F. R. 237; Cary v. De Haven, 88 F. R. 698; Blair v. Jeanette, 161 F. R. 355; Hyde v. Minerals (U. S.), 234 O. G. 1311; Accumulator C. v. Consolidated Elec. Storage, 53 F. R. 793; Delaware Metal Refining v. Woodfall, 55 F. R. 988; Globe Nail v. U. S. Horse Nail, 19 F. R. 819; Celluloid v. Arlington, 44 F. R. 81; Michaelis v. Roessler, 38 F. R. 724. And people who have long claimed to use a process need not disclose it to a recent patentee. Stokes v. Heller, 56 F. R. 297. But the mere identity of product will not throw burden on defendant. Schwartz v. Housman, 88 F. R. 519. A change of temperature in making starch may involve a new theory. Corn Products v. Douglas, 207 F. R. 751.

120U. S. Frumentum v. Lauhoff, 216 F. R. 610.

121German American Filter v. Loew, 103 F. R. 303; Johnson v. Foos, 141 F. R. 73. Not where probable use was for other system. General Elec. v. Sutter, 186 F. R. 637. Repairing, Goodyear v. Preterre, 14 O. G. 346.

122Westinghouse Elec. v. Dayton, 106 F. R. 724. In a product (tempered saw). Thompson v. Bushnell, 96 F. R. 238; German American v. Loew, 103 F. R. 303.

123Alabastine v. Payne, 27 F. R. 559; Boyd v. Cherry, 50 F. R. 279; Vermont v. Gibson, 56 F. R. 143; N. Y. Filter v. Jackson, 91 F. R. 422; Loew v. German American, 107 F. R. 949; Rumford v. Hygienic, 159 F. R. 436; Rumford v. Hecker, 10 O. G. 289; Bowker v. Dows, 15 O. G. 510; Leeds and Catlin v. Victor, 213 U. S. 318; Westinghouse v. Wagner, 225 U. S. 604; Wood v. Cleveland, 4 Fish. 550. But are limited by the scope of the invention. Geis v. Kimber, 36 F. R. 105. But not necessarily so. Bullock v. Westinghouse, 129 F. R. 105. Compare Rumford v. Hecker, 3 O. G. 353.

124Roberts v. Schreiber, 2 F. R. 855.

125Celluloid v. American Zylonite, 30 F. R. 437; 35 F. R. 417; Perkins Glue v. Solva, 223 F. R. 792; Chisholm v. Johnson, 106 F. R. 191; reversed 115 F. R. 625. But see dissent, and Chisholm v. Fleming, 133 F. R. 924. So, too, finishing a well by a patented process, infringes a patent on the well process itself. Andrews v. Eames, 15 F. R. 106.

Infringement damages are computed both on the basis of profits[126] to the infringer and[127] damage to the patentee, but only cover the product of[128] the patented process. The using or vending of a composition of matter infringes[129] a patent for it, and where an article is made wholly of patented composition[130] the damages are the entire profits.

In interferences the questions are much the same as in infringement and novelty, both as to steps and ingredients added or omitted, But the proof of the infringement, anticipation, and laches, etc., in connection with something intangible, like a process[131] is often somewhat

Making part of a key board with continuous covering infringes claim to whole keyboard. Celluloid Co. v. Pratt, 21 F. R. 313; overruled on novelty, Celluloid v. Tower, 26 F. R. 451. But compare Celluloid v. Comstock, 23 F. R. 38. Buying commercial pure nickel, instead purifying its solution does not avoid a patent requiring a pure article. United Nickel v. California, 25 F. R. 475. But see Boneless v. Roberts, 12 F. R. 627.

126Everest v. Buffalo Lubricating, 31 F. R. 742; Celluloid v. Cellonite, 40 F. R. 476; Am Ende v. Seabury, 43 F. R. 672; Diamond v. Brown, 166 F. R. 306; Hemolin v. Harway, 166 F. R. 434; Fullerton v. Anderson, 166 F. R. 443; Pressed Prism v. Continuous, 181 F. R. 151; Fox v. Knickerbocker, 158 F. R. 422; Byerly v. Cleveland, 31 F. R. 73; Schmertz v. Western, 203 F. R. 1006; U. S. Frumentum v. Lauhoff, 216 F. R. 610; Continuous v. Schmertz, 219 F. R. 199; Cambria v. Carnegie, 224 F. R. 947; Western v. Schmertz, 226 F. R. 730; Byerly v. Sun, 226 F. R. 759; Munising v. American Sulphite, 228 F. R. 700; Providence Rubber v. Goodyear, 9 Wall. 788; Piper v. Brown, 2 O. G. 97; Am. Nicholson Paving v. Elizabeth, 6 O. G. 746; Black v. Thorne, 7 O. G. 176; Tilghman v. Proctor, 125 U. S. 136; Hurlburt v. Schillinger, 130 U. S. 456.

127United Nickel v. Central Pacific, 36 F. R. 186; Fox v. Knickerbocker, 165 F. R. 442; Carew v. Boston, 1 O. G. 91; Goodyear v. Antwerp, 9 O. G. 497. Compare Schillinger v. Gunther, 14 O. G. 713; Wetherill v. N. J., 1 Ban. and A. 485.

128Mowry v. Whitney, 14 Wall. 620; Lawther v. Hamilton, 64 F. R. 221. Compare Royer v. Shultz, 45 F. R. 51.

129Kiesele v. Haas, 32 F. R. 794.

130Welling v. Le Bau, 34 F. R. 40; Codington v. Propfe, 112 F. R. 1016. Compare Carborundum v. Electric, 203 F. R. 976.

131Philadelphia Rubber v. U. S., 229 F. R. 150; American Featherbone v. Warren, 141 F. R. 655; Petrie v. De Schweinitz, 99 O. G. 446; Tripler v. Linde, 101 O. G. 2288; Flora v. Powrie, 106 O. G. 2288; 109 O. G. 2443; Talbot v. Monell, 107 O. G. 1093; McKnight v. Pohle, 105 O. G. 977; Marconi v. Shoemaker, 131 O. G. 1939; Boynton v. Taggart, 190 O. G. 795; General Electric v. Steinberger, 214 F. R. 781; Bender v. Engel, 211 O. G. 285; Manning v. Cape Ann, 108 U. S. 462; Toch v. Zibell, 231 F. R. 711; 233 F. R. 933; Tompkins v. St. Regis, 236 F. R. 221; Béné v. Jeantet, 129 U. S. 683; Allen v. Alter, 3 App. Comr. Pats. 322; Bridge v. Brown, Holmes 53; Collins v. White, 3 App. Com. Pats., 329; Gutta Percha v. Goodyear, 3 Ban. and A. 212; Jones v. Wetherill, MacArthur 409; Hudson v. Draper, 4 Fish. 256; National v. Arctic Oil, 4 Fish. 514; Ready v. Taylor, 3 Ban. and A. 368; Rich v. Lippincott, 2 Fish. 1; Sickles v. Falls, 2 Fish. 202; Treadwell v. Fox, 3 App. Comr. Pats., 201; General Elec. v. Germania, 174 F. R. 1017; Codington v. Propfe, 112 F. R. 1016; Maurer v. Dickerson, 113 F. R. 870; Welsbach v. American, 98 F. R. 613; Westinghouse v. Sutter, 194 F. R. 888; 202 F. R. 759; Emerson v. Simpson, 202 F. R. 747; Crowell v. Sim, 1870 C. D. 72; Riley v. Bauman, 1871 C. D. 101; Spencer v. Trafford, 1871 C. D. 119; Worley v. Loker, 104 U. S. 340; Doyle v. McRoberts, 79 O. G. 1029; Handy Things v. Dorsey, 188 F. R. 70; Lalance and Grosjean v. Habermann, 53 F. R. 375; Imperial v. Stein, 77 F. R. 612. So is notice by marking different.

different from proof of an infringement of an article or a machine. Moreover interference in fact is not[132] proved by ability to copy claims. There is no interference where the claims of[133] one party include an important step not in the claims of the other, or a[134] product not made by him. The prior inventor of a process is held prior[135] inventor of its product. The question of inventorship, as between a suggester and a reducer[136] to practice, is often exceedingly narrow. Reduction to practice must be complete and[137] successful and work continuous. The ques-

U. S. Mitis v. Carnegie, 89 F. R. 206. Compare General Electric v. McLaren, 140 F. R. 876. Also Henschel v. Carthage, 169 F. R. 114. Compare Haarmann De v. Van Dyk, 165 F. R. 934. Compare United Nickel v. Manhattan Brass, 4 Ban. and A. 173. Analogously it is impossible to mark the "article patented." U. S. Mitis v. Midvale, 89 F. R. 206; 135 F. R. 103. Compare A. B. Dick v. Underwood, 235 F. R. 300. In a machine see Lewis v. Cronemeyer, 130 O. G. 300. Compare Mark v. Greenawalt, 138 O. G. 965; 140 O. G. 509. Compare Whitman v. King, 160 O. G. 260. Compare McBerty v. Cook, 90 O. G. 2295; Locke v. Boch, 93 O. G. 1722. Compare experts in interference cases. Stone v. Pupin, 100 O. G. 1113. Compare Chaffee v. Boston Belting, 22 How. 217. For anticipation see Young v. Burley, 200 F. R. 258; and Emerson v. Simpson, 202 F. R. 747. For evidence negativing identity. Standard v. American, 203 F. R. 508. Compare Macbeth Evans v. General Electric, 231 F. R. 183. In Minerals Separation v. Miami, 237 F. R. 609, the Court (not in the printed decision) ruled that it would receive as evidence enlarged micro-photograph moving pictures showing comparative phenomena of liquids acting on solids, even though it was necessary to adjourn the court to a moving picture theater, and there to view the pictures.

[132]Bissel v. Robert, 51 O. G. 1618.

[133]Wickers v. Albert, 129 O. G. 1268; Wickers v. Upham, 129 O. G. 1612; Sadtler v. Carmichael v. Smith, 86 O. G. 1498; Bullier v. Willson, 87 O. G. 180. Compare Rosell v. Allen, 92 O. G. 1036. But see Wickers v. McKee, 129 O. G. 869; 129 O. G. 1269 and 1270.

[134]Calm v. Schweinitz v. Dolley v. Geisler, 86 O. G. 1633.

[135]Compare Universal v. Willimantic, 82 F. R. 228. Compare Mica v. Commercial, 157 F. R. 90.

[136]Braunstein v. Holmes, 130 O. G. 2371; Braunstein v. Holmes, 133 O. G. 1937; Ladoff v. Demster, 166 O. G. 511; Moody v. Colby, 198 O. G. 899; Riley v. Barnard, 59 O. G. 1919; Flather v. Weber, 104 O. G. 312; French v. Holcomb, 115 O. G. 506; 120 O. G. 1824. Compare Corner v. Kyle, 114 O. G. 2092. Compare Hewlett v. Steinberger, 190 O. G. 270. But see General Electric v. Steinberger, 214 F. R. 781.

[137]Reed v. Roberts, 1869 C. D. 88; Engineer v. Hotel, 226 F. R. 779; 226 F. R. 949; McCracken v. Russell, 1869 C. D. 35; Kirchner v. Blair, 13 O. G. 364; Sawyer v. Edison, 25 O. G. 597; Beach v. Fowler, 48 O. G. 821; Zwietusch v. Stockheim, 53 O. G. 755; Croskey v. Atterbury, 76 O. G. 163; Appert v. Schmertz, 84 O. G. 508; Tripler v. Linde, 101 O. G. 2288; 102 O. G. 1297; Kyle v. Corner, 113 O. G. 2216; Wickers v. McKee, 129 O. G. 869; Wickers v. Upham, 129 O. G. 1612; Sherwood v. Drewson, 130 O. G. 657; Sydeman v. Thoma, 141 O. G. 866; Whitman v. King, 160 O. G. 259; Potter v. Tone, 163 O. G. 729; Sanders v. Emerson, 174 O. G. 1220; Bridge v. Brown, Holmes 53; Jones v. Wetherill, MacArthur, 409; National v. Artic Oil, 4 Fish. 514; Union v. Lounsbury, 2 F. R. 389; Dutcher v. Jackson, 225 O. G. 738; Creveling v. Jepson, 226 O. G. 336; Becker v. Bird, 228 O. G. 407; Braun v. Wahl, 228 O. G. 1458; Janin v. Curtis, 231 O. G. 1539; Atlantic Giant Powder v. Dittmar, 1 F. R. 328; Celluloid v. Crofut, 24 F. R. 796. But occasional failure does not negative successful practice. Appert v. Brownsville, 144 F. R. 115. Compare Pope v. McKenzie, 176 O. G. 1072. Compare

tion as to whether an experiment[138] in a laboratory has the standing of a model or of a working machine in mechanical patents appears to depend on special circumstances, but a[139] caveat was a reduction to a practice if full and complete.

The important question of[140] licenses has comparatively rarely come up, in connection with decisions on process or composition patents, except on questions which are broader than the scope of this essay. As in the case with mechanical patents, the licensee often gets more privileges than the face of the license seems to call for, because the licensor[141] is presumed to give something of real value. The licensee of a process is owner[142] of the product and can do what he likes with it, but ownership of a patented machine is no[143] license to use it or to buy others to use in a patented process.

The construction of claims[144] is strictly limited to what they cover. A single claim cannot cover both a process[145] and machine or

Weintraub v. Hewitt, 178 O. G. 889; 180 O. G. 882; Lederer v. Walker, 182 O. G. 511. Compare Barcley v. Schuler, 199 O. G. 309. See Dolbear v. Am. Telephone, 126 U. S. 1.

But a fire extinguisher need not put out a very large fire. Northwestern v. Philadelphia, 6 O. G. 34. The proof of ingredients must be complete. Leighton v. Barker, 14 O. G. 199. Compare Buell v. Shaefer, 71 O. G. 1453. Compare Wurts v. Harrington, 79 O. G. 337. In case of a product must involve use thereof. Silverman v. Hendrickson, 99 O. G. 445. Compare Daggett v. Kaufman, 145 O. G. 1024. Compare Miller v. Speller, 165 O. G. 732. Compare Ruping v. Lowry, 168 O. G. 1037.

[138]United Nickel v. California, 25 F. R. 475; Blumenthal v. Burrell, 43 F. R. 667; Michaelis v. Larkin, 91 F. R. 778; Naylor v. Alsop, 168 F. R. 911; Ex parte Carré, 4 O. G. 180; Cheeseborough v. Toppan, 1872 C. D. 100. In medicine an experiment published, but of which product was never used, is an anticipation. Parke Davis v. H. K. Mulford, 189 F. R. 95. But public experiment on a lamp does not anticipate a process primarily for furnaces, etc. Schlicht v. Aeolipyle, 117 F. R. 299. Compare Union Carbide v. American, 172 F. R. 136; 188 F. R. 334. Compare Stevens v. Sehr, 81 O. G. 1932. Compare Franklin v. Morton v. Cooley, 95 O. G. 2063. Compare Slingluff v. Sweet, 230 O. G. 659.

[139]Colhoun v. Hodgson, 70 O. G. 276; Gold v. U. S., 3 Fish. 489.

[140]Libby v. McKee, 216 F. R. 172; Providence Rubber v. Goodyear, 9 Wall. 788. Implied license construed. Barber v. National, 129 F. R. 370. Compare Amer. Gramophone v. Leeds, 155 F. R. 427. Compare N. Y. Phonograph v. National, 163 F. R. 534. See Lawther v. Hamilton, 124 U. S. 1.

[141]Compare Am. Gramophone v. Victor, 183 F. R. 580; Buffalo Specialty v. Indiana, 234 F. R. 334; Day v. Stellman, 1 Fish. 487; Goodyear v. Beverley, 1 Cliff. 348; Goodyear v. Cary, 1 Fish. 424.

[142]Goodyear v. Beverley, 1 Cliff. 348. Compare Metropolitan Washing v. Earle, 2 Fish. 203.

[143]Vermont Farm v. Gibson, 46 F. R. 488; 50 F. R. 423.

[144]Keifer v. Unionwerke, 231 F. R. 733; Zan v. Quong, 47 F. R. 901; Sun Vapor v. Western, 48 F. R. 682. The specification cannot be read into a claim which is clearly met. Bracewell v. Passaic, 107 F. R. 467.

[145]Consol. Bunging v. Brewing, 35 F. R. 73; Ex parte Bate, 16 O. G. 266. But though worded as a process, it may be construed as a broad claim to a machine. Spencer v. Penna. R. Co., 34 F. R. 899. Compare American Mfg. v. Lane, 15 O. G. 421. But see, Dolbear v. Am. Telephone, 126 U. S. 1.

product.[146] Claims to chemical inventions are not so strictly[147] limited in form as those to mechanical inventions since the absence of substances can[148] constitute invention and be[149] claimed. The claims must not, however, be limited to a mere[150] result. A process claim must not be to the[151] mere "use" of a thing or ingredient. Amendments to claims are, however, just as binding[152] as in machine applications.

Owing to the point of view of the U. S. Courts and U. S. Patent Office there is a natural tendency to require inventors to define products[153] independently of the process by which they are made, and[154] processes independently of products. This leads to some unfortunate results and is[155] often abandoned owing to the fact that patents often turn on empirical chemistry[156] and mechanics, so the claims must be formulated before theoretical chemistry and mechanics can supply adequate definitions. It seems likely that less pressure will be used in the future in limiting claims in this way.

It is unfortunately apparently necessary to insist that the inventions in process and product patents must be[157] definably new and be claimed

146Van Camp v. Maryland Pavement, 34 F. R. 740; American v. Empire, 50 F. R. 929; Durand v. Green, 60 F. R. 329; Durand v. Schultze, 61 F. R. 819; Ferris v. Batcheller, 70 F. R. 714; Welsbach v. Incandescent, 101 F. R. 131; Merrill v. Yoemans, 5 O. G. 268; 94 U. S. 568; Welling v. Rubber Coated, 7 O. G. 608; Collender v. Bailey, 13 O. G. 277; Ex parte Du Motay, 16 O. G. 499; Burt v. Evory, 133 U. S. 349; Many v. Sizer, 1 Fish. 28. But see Celluloid v. Frederick Crane, 36 F. R. 110.

147A claim to a group of named solvents is valid. Celluloid v. Frederick Crane, 36 F. R. 110.

148Rumford v. N. Y., 134 F. R. 385; Tarr v. Folsom, 5 O. G. 92; Byam v. Farr, 1 Curt. 260. In a process. Lawther v. Hamilton, 124 U. S. 1.

149Rumford v. N. Y., 134 F. R. 358; McCormick Waterproof v. Medusa, 222 F. R. 288; Byam v. Farr, 1 Curt. 260. Or nearly free from. Parke Davis v. H. K. Mulford, 189 F. R. 95; 196 F. R. 499; United Nickel v. Pendleton, 15 F. R. 739; same v. Anthes, 1 O. G. 578; same v. Keith, 5 O. G. 272; same v. Harris, 17 O. G. 325; same v. Manhattan Brass, 4 Ban. and A. 173; same v. Central Pacific, 36 F. R. 186. Storage battery element. Electric Storage v. Philadelphia, 211 F. R. 154.

150Bailey v. Lincoln, 4 Fish. 379.

151Ex parte Mayall, 4 O. G. 210. Compare Foote v. Silsby, 2 Blatschf. 260.

152Royer v. Coupe, 146 U. S. 524.

153Ex parte Truesdell, 1870 C. D. 123; Ex parte Selbers, 2 O. G. 246; Ex parte Arkell, 11 O. G. 1111; Ex parte Designole, 13 O. G. 227; Ex parte Rogers, 52 O. G. 460; Risdon v. Medart, 158 U. S. 68; Ex parte Scheckner, 106 O. G. 765; In re Roselius, 162 O. G. 272. In re Pratt, 224 O. G. 1407. Contra, ex parte Painter, 57 O. G. 999.

154Ex parte Crecelius, 116 O. G. 2531.

155Brush Electric v. Julien, 41 F. R. 679; Ex parte Mayall, 4 O. G. 210; Dittmar v. Rix, 1 F. R. 342; Globe Nail v. U. S. Horse Nail, 19 F. R. 819; Pickhardt v. Packard, 22 F. R. 530; Lockwood v. Hooper, 25 F. R. 910, and citations therein. Especially when identifying tests are partially relied on. Holiday v. Pickhardt, 29 F. R. 853.

156Electric Accumulator v. Brush, 52 F. R. 130.

157Tannage v. Zahn, 66 F. R. 986; reversed 70 F. R. 1003; Cerealine v. Bates, 101 F. R. 272; Sanitas v. Voigt, 139 F. R. 551; Am. Wood Paper v. Fibre, 23 Wall. 566; Smith v. Elliott, 1 O. G. 331; In re Henry, MacArthur 467; In re Bond, 222 O. G. 1057; Barrett v. Ewing, 228 O. G. 761. But see Reed v. Street, 34 O. G. 339.

by such definitions[158] even though the reasons for selecting a given definition are not wholly clear. A manufacture or product thereof is not[159] patentable because made by a better machine, or better process.

A coating has been held properly patentable[160] as such. A product is sufficiently defined[161] if claimed as "coated substantially as described" or having the "herein described characteristics." A product may be patentable because of its[162] utility even if merely purer or in more[163] useful form than the prior art shows. Similar facts are true of manufactures.[164] A product patent will cover[165] equivalents even though not[166] isolated if they are known or identified,[167] but if claimed as the product of a given process are not infringed if made by a substantially dif-

158Jones v. McMurry, 13 O. G. 16.

159McKloskey v. Dubois, 8 F. R. 710; Excelsior v. Union Needle, 32 F. R. 221; Ex parte Selbers, 2 O. G. 246; Draper v. Hudson, 3 O. G. 354; Ex parte Hibbard, 4 O. G. 54; Risdon v. Medart, 158 U. S. 68. Even if somewhat better. Wooster v. Calhoon, 6 Fish. 514.

160United Nickel v. California, 25 F. R. 475; Same v. Central Pacific, 36 F. R. 186. Same v. Pendleton, 15 F. R. 739; same v. Melchior, 17 F. R. 340; same v. Anthes, 1 O. G. 578; same v. Keith, 5 O. G. 272; same v. Harris, 17 O. G. 325; same v. Manhattan Brass, 4 Ban. and A. 173. Also a silver plated iron spoon. Wallace v. Noyes, 13 F. R. 172.

161Ex parte Tweedle, 10 O. G. 747. Ironclad v. Jacob Vollrath, 52 F. R. 143. But claims which merely recite indefinite properties are invalid. North American Chemical v. Keno, 227 F. R. 63.

162Waterbury Brass v. Miller, 5 Fish. 48; Parke Davis v. H. K. Mulford, 189 F. R. 93; 196 F. R. 499; Pickhardt v. Packard, 22 F. R. 530; Warren v. Owosso, 166 F. R. 309; on preliminary injunction, Warren v. Montgomery, 172 F. R. 414.

163Adams v. Bridgewater, 26 F. R. 324; Cerealine v. Bates, 101 F. R. 272; Blumenthal v. Burrell, 43 F. R. 667; Dickerson v. Maurer, 108 F. R. 233; Hemolin v. Harway, 131 F. R. 483; Farbenfabriken v. Kuehmsted, 171 F. R. 887; 179 F. R. 701; Perkins Glue v. Solva, 223 F. R. 729; Badische Anilin v. Hamilton, 13 O. G. 273. But not if the useful form is old, though rare. American v. Bridgewater, 132 F. R. 16. A better cooked, more attractive food is not patentable. Sanitas v. Voigt, 139 F. R. 551; Maryland v. Dorr, 46 F. R. 773; So also ground coffee. Bates v. Duncombe, 146 F. R. 744. Compare prismatic glass. Pressed Prism v. Continuous, 150 F. R. 355. Union Carbide v. American, 172 F. R. 120; infringed, 181 F. R. 104. Better keeping qualities. Rumford v. N. Y., 134 F. R. 385. But see Maryland Hominy v. Baltimore, 46 F. R. 660. An insoluble dye does not anticipate the same made soluble by prolonged washing. Badische v. Kalle, 104 F. R. 802. Claim to crystaline calcium carbide is valid. Union Carbide v. Amer. Carbide, 188 F. R. 334. But wire having paraffine compressed into its coating is not patentable, where other ingredients have been so pressed. Western Elec. v. Ansonia Brass, 9 F. R. 706.

164Very minor modifications of material may be patentable in an electric battery. Elec. Accumulator v. Brush, 52 F. R. 130.

165But an equivalent is to be construed in the light of the prior art. Jensen v. Clay, 59 F. R. 290.

166Compare Stevens v. Seher, 81 O. G. 1932.

167Spill v. Celluloid, 10 F. R. 290. Read Holiday v. Schulze-Berge, 78 F. R. 493. Compare Parke Davis v. H. K. Mulford, 189 F. R. 95; Parsons v. Colgate, 15 F. R. 600. But the burden is on the defendant to show the different process. Pickhardt v. Packard, 22 F. R. 530.

ferent[168] process. A product is not novel if a description[169] of a process has been published, if that necessarily produced the product. The kind of[170] utility residing in a product may be controlling as to the question of infringement. It follows from what has been said above that it is impossible to lay down any controlling rule for deciding whether it is[171] process or[172] product which is patentable when one is obvious the other given. This is analogous to the fact that a machine may be[173] patentable though its structure is obvious once the problem is stated which the machine solves, though patentability often resides in the machine itself. A product may be patentable because it has hitherto been unattainable, but a new process[174] makes it available; and where a process and product are claimed in a single patent and are both infringed, the courts often hold the product[175] claims good as a matter of course when the process is new.

The doctrine of equivalents is often difficult of application in composition patents and some confusion exists as to the meaning of the dictum that a newly discovered[176] substance cannot be construed as an equivalent in infringement suits. An equivalent of a substance is another having substantially the[177] same effect to be determined by appropriate tests

168Cochrane v. Badische, 111 U. S. 293; Plummer v. Sargent, 120 U. S. 442; Béné v. Jeantet, 129 U. S. 683; Dittmar v. Rix, 1 F. R. 342; Cotter v. New Haven Copper, 13 F. R. 234; Jensen v. Clay, 59 F. R. 290. Expanded Metal v. Board of Education, 111 F. R. 395. A product is not patentable though made by a new process, if old in itself. Societe Fabririque v. George Lueders, 135 F. R. 102; 142 F. R. 753. Compare Victor v. American, 151 F. R. 601.

169In re Griffith, 187 O. G. 517. Compare Mosler v. Mosler, 127 U. S. 345.

170Union Tubing v. Patterson, 23 F. R. 79; Celluloid v. Chrolithion, 23 F. R. 397; Blumenthal v. Burrell, 43 F. R. 667; American Gramophone v. Walcutt, 87 F. R. 556; Am. Gramophone v. Leeds, 87 F. R. 873; Byerley v. Sun, 184 F. R. 455; Jenkins v. Johnson, 5 Fish. 433.

171Both often are patentable. R. Thomas v. Electric, 111 F. R. 923. Compare National Enamelling v. N. E., 151 F. R. 19.

172Oval Wood v. Sandy Creek, 60 F. R. 285; International v. William Cramp, 202 F. R. 932.

173International Curtis v. W. Cramp, 211 F. R. 124; Miehle Printing v. Whilock, 223 F. R. 647; Snook-Roentgen v. Stetson, 237 F. R. 204.

174Thomson Electric Welding v. Barney, 227 F. R. 428; Hobbs v. King, 8 F. R. 91; Providence Rubber v. Goodyear, 9 Wall. 788; Hoffman v. Stiefel, 3 Fish. 638; Waterbury Brass v. Miller, 5 Fish. 48.

175Consolidated v. Hassam Paving, 227 F. R. 436.

176Welling v. Le Bau, 34 F. R. 40; Hoke Engraving v. Schraubstadter, 47 F. R. 506; American Sulphite v. Hinkley, 217 F. R. 57; Munising v. American Sulphite, 228 F. R. 700; Goodyear v. Davis, 12 O. G. 1; Standard Paint v. Bird, 175 F. R. 346; Bailey v. Lincoln, 4 Fish. 379; Colgate v. Law, 5 Ban. and A. 437; Goodyear v. Berry, 3 Fish. 439.

177Treibacher Chemische v. Roessler, 219 F. R. 210; Tyler v. Boston, 7 Wall. 327; Francis v. Mellor, 1 O. G. 48; Jenkins v. Walker, 1 O. G. 359; Wonson v. Gilman, 11 O. G. 1011; Atlantic Giant v. Mowbray, 12 O. G. 111; Wonson v. Peterson, 13 O. G. 548; Clark v. Johnson, 17 O. G. 1401; 18 O. G. 1276; Pratt v. Thompson, 72 O. G. 1347; Ryan v. Good-

especially practical use, but novel[178] physical characteristics may create novelty even though chemical tests show articles to be old. A chemical analysis may be controlling where no[179] adequate explanation is offered by defendants. It is the utility which is controlling, and a composition having new[180] utility, not previously obtainable by those skilled in the art is patentable even though it differs from another only in degree[181]

win, 1 Robb. 725; Goodyear v. Wait, 3 Fish. 242; Matthews v. Skates, 1 Fish. 602; Holiday v. Pickhardt, 12 F. R. 147; Columbia Chemical v. Rutherford, 58 F. R. 787; Standard v. Bird, 65 F. R. 509; Propfe v. Coddington, 108 F. R. 86; A. B. Dick v. Pomeroy, 117 F. R. 154; Hemolin v. Harway, 138 F. R. 54; Sloan v. Portland, 139 F. R. 23; Mauer v. Dickerson, 113 F. R. 870; Farbenfabriken v. Kuehmsted, 171 F. R. 887; 179 F. R. 701; Atlantic Giant Powder v. Dittmar Powder, 9 F. R. 316; Pasteur Chamberland Filter v. Funk, 52 F. R. 146; Blount v. Societe etc. Filter, 53 F. R. 98; Read Holiday v. Schultz-Berge, 78 F. R. 493; Clark v. Johnson, 4 F. R. 437; Parsons v. Colgate, 15 F. R. 600; United Nickel v. Pendleton, 15 F. R. 39; Royer v. Chicago, 20 F. R. 853; Spill v. Celluloid, 21 F. R. 631; 22 F. R. 94; Commercial v. Fairbank, 27 F. R. 78. Scope depends on prior art. Spill v. Celluloid, 10 F. R. 290. Soft solder in form of a paste is not anticipated by hard solder, or by what is called solder but is not the same. Kupfer v. Westinghouse, 212 F. R. 184. An alloy patent is infringed by the same alloy plus other ingredients if the theory and utility of the patent will cover it. Hoskins v. General Elec. 212 F. R. 422. In a process. Harrisburgh v. N. Y., 217 F. R. 366; Compare Vollrath v. Comstock, 59 O. G. 1105. In infringement compare Oriental v. De Jonge, 234 F. R. 895; and 235 F. R. 294.

[178]Ex parte Sommer, 58 O. G. 1255; Eastman v. Hinkel, 5 Ban. and A. 1; Plastic Slate v. Moore, 1 Holmes 167; Elec. Accumulator v. Brush, 52 F. R. 130; Bridgeport v. Hooper, 5 F. R. 63; Columbia Chemical v. Rutherford, 58 F. R. 787. Solubility which makes useful. Badische v. Kalle, 104 F. R. 802; Badische v. Klipstein, 125 F. R. 543. But not merely because powdered. Milligan v. Upton, 6 O. G. 837; 97 U. S. 3. Compare ex parte Frasch, 77 O. G. 1427. But see Adams v. Loft, 4 Ban. and A. 495.

[179]General Bakelite v Nikolas, 225 F. R. 539; Kiesele v. Haas, 32 F. R. 794; A. B. Dick v. Belke, 86 F. R. 149; Badische v. Klipstein, 125 F. R. 543; Haarman-De v. Van Dyk, 165 F. R. 934. But the analysis must be adequate and clear. Hentschel v. Carthage, 169 F. R. 114; and Byam v. Eddy, 2 Blatschf. 521. But see Allen v. Hunter, 6 McLean, 303.

[180]National Enamelling v. N. E., 139 F. R. 643; Chadeloid v. De Ronde, 146 F. R. 988; Warren v. Owosso, 166 F. R. 309; Warren v. N. Y., 187 F. R. 831; Commercial Acetylene v. Avery, 166 F. R. 907; Kupfer v. Westinghouse, 212 F. R. 184; Hoskins v. General Electric, 212 F. R. 422; Read Holiday v. Schulze-Berge, 78 F. R. 493; Columbia Chemical v. Rutherford, 58 F. R. 787; A. B. Dick v. Belke, 86 F. R. 149; King v. Anderson, 90 F. R. 500; Panzl v. Battle Island, 138 F. R. 48; Non hydroscopic. Hemolin v. Harway, 138 F. R. 54. But the mere idea of having it ready does not make it patentable. Ohio Varnish v. Glidden, 215 F. R. 902. But it must be defined by its ingredients rather than its useful properties. North Am. Chemical v. Keno, 227 F. R. 63. Merely adulterated food is not patentable. In re Weida, 6 O. G. 681. An applicant can submit affidavits as to utility of combination. Ex parte Rodgers, 16 O. G. 1233. A composition in which an element has no utility is not patentable. Ex parte Danford, 131 O. G. 942. But see Adams v. Loft, 4 Ban. and A. 495. A mortar may differ patentably from a paint. Plastic Slate v. Moore, 1 Holmes 167. Compare Gordon v. Turko-Halvah, 233 F. R. 430.

[181]Panzl v. Battle Island, 132 F. R. 607; 138 F. R. 48; Keasbey v. Philip Carey, 139 F. R. 571; Ajax v. Brady, 155 F. R. 409; reversed 160 F. R. 84; Warren v. Owosso, 166 F. R. 309; Warren v. Montgomery, 172 F. R. 414; Badische v. Kalle, 104 F. R. 802; Cleveland v. U. S., 52 F. R. 385; McCormick v. Medusa, 222 F. R. 288; Woodward v.

of ingredients. No composition is novel within the meaning of patent law which is merely made of[182] better materials and which is only such a composition as a physician or expert[183] in the art might be expected to prescribe or devise; nor one which is an[184] artificial matching of a natural compound. Similar considerations control the question of infringement[185]. Thus a patent will not be construed to cover a composition not within its terms, and only accidentally[186] nearly equivalent. So it follows that a really novel composition cannot be rejected on an aggregation[187] of references though a new composition may infringe[188] an old one, but the mere discovery of new properties in a composition or manufacture[189] otherwise old does not make it patentable. Broad names in a

Morrison, 2 O. G. 120; Badische Anilin v. Hamilton, 13 O. G. 273; Badische Anilin v. Higgin, 14 O. G. 414; Cahill v. Beckford, Holmes 48; Goodyear v. Wait, 3 Fish. 242; Jenkins v. Johnson, 5 Fish. 433; Plastic Slate v. Moore, 1 Holmes 167. Oily sawdust which will not stain,—see decision and dissent. Cotto Waxo v. Perolin, 185 F. R. 267. Bituminous macadam. Warren v. N. Y. 187 F. R. 831. Homologues in chemistry. Parke Davis v. H. K. Mulford, 189 F. R. 95.

182Bucken v. McKesson, 7 F. R. 100; Smith v. Murray, 27 F. R. 69. Adding lard oil to wax not patentable. A. B. Dick v. Wichelman, 108 F. R. 961. Analogous material. Rumford v. Lauer, 3 O. G. 349; and Rumford v. Hecker, 3 O. G. 353.

183U. S. v. Merrimack, 9 O. G. 202; In re Shaefer, 66 O. G. 514; Bender v. Hoffman, 85 O. G. 1737. In re Welsbach, 179 O. G. 1111; Boykin v. Baker, 9 F. R. 699; Welling v. Crane, 21 F. R. 707; Peoria Target v. Cleveland, 47 F. R. 725; Ex parte Crippen, Hart's Digest 238; 43 Mss. C. D. Such as a mixture of anilin colors. Ex parte Landenberger, 1871 C. D. 179. Or a paint containing oxide of copper. Tarr v. Webb, 2 O. G. 568. Partially coked coal is not patentable. Musgrave v. Comr. of Pats., 78 O. G. 2047.

184Cochrane v. Badische, 111 U. S. 293; Hoskins v. Matthes, 108 F. R. 404. Compare Tarr v. Folsom, 5 O. G. 92. The fibre obtained from a given source is not patentable. Ex parte Latimer, 46 O. G. 1638. But see, in re Corbin, Mac Arthur, 521.

185Impure will not infringe pure where composition is indefinite. Blumenthal v. Burrell, 53 F. R. 105. Nor will all dry mince meat infringe the first patent to dry mince meat. Dougherty v. Doyle, 59 F. R. 470; 63 F. R. 475. See Blumenthal v. Burrell, 43 F. R. 667; King v. Anderson, 90 F. R. 500; Pittsburgh Iron v. Seaman, 236 F. R. 756.

186Kirk v. Elkins, 19 F. R. 417. Contra, N. Y. Pharm. v. Tilden, 14 F. R. 740.

187Ryan v. Goodwin, 1 Robb. 725; Brown v. Hewitt, MacArthur, 310. But it is not patentable where the ingredients and their properties are well known. Welling v. Crane, 14 F. R. 571. But a composition is novel even though a chemist by long experimenting might have discovered the novel combination. Celluloid v. Am. Zylonite, 35 F. R. 301. But not if experimenting seems obvious. A. B. Dick v. Wichelman, 105 F. R. 629; 108 F. R. 961. A rearrangement of ingredients of a food in specific proportions is patentable. Ex parte Heide, 8 O. G. 817. A beverage having a new flavor is patentable. Rogers v. Ennis, 14 O. G. 601.

188Atlantic Giant v. Mowbray, 12 O. G. 111; Atlantic Giant v. Goodyear, 13 O. G. 45; Eastman v. Hinckel, 5 Ban. and A. 1; Goodyear v. Rust, 3 Fish. 456; Goodyear v. Berry, 3 Fish. 439; Goodyear v. Evans, 3 Fish. 390.

189General Electric v. Yost, 139 F. R. 568; Dorlan v. Guie, 25 F. R. 816; Royer v. Willemsen, 40 F. R. 158. But old ingredients may co-act in a new way to create patentability. McEwan v. White, 63 F. R. 570. But if new and useful is patentable because of even only solubility. Badische v. Kalle, 104 F. R. 802; Stow v. Chicago, 104 U. S. 547; Ex parte Todd, 185 O. G. 250; In re French, 186 O. G. 991.

patent do not entitle the patentee to cover elements which are not[190] equivalents for the purpose of the patentee in view of the prior art, and similar facts hold[191] interference practice.

"Manufactures" as[192] used in the patent law has a very comprehensive sense, embracing whatever is made by the art or industry of man, not being a machine, a composition of matter or a design. In manufactures the kind of utility[193] is often, if not usually, controlling in questions both of patentability[194] and infringe-

[190]In a process Philadelphia v. Davis, 84 F. R. 881; 79 F. R. 357. Adding a well-known substance to any composition is invalid. Boon v. Hinman, 1870 C. D. 7; Clarke v. Johnson, 17 O. G. 1401; 18 O. G. 1276. Compare (Incandescent Lamp Patent), Consolidated v. McKeesport, 159 U. S. 465; Compare Stevens v. Seher, 81 O. G. 1932. Compare Bender v. Hoffman, 85 O. G. 1737. Compare interferences. Wilson v. Ellis, 211 O. G. 286.

[191]Wilson v. Ellis, 211 O. G. 286. Two compositions do not interfere when their vital elements are not the same. Jackson v. Nichols, 1871 C. D. 278.

[192]Riter-Conley v. Aiken, 203 F. R. 699. But see Jacobs v. Baker, 7 Wall. 295. Compare ex parte Ackerson, 1869 C. D. 75.

[193]Lockwood v. Hooper, 25 F. R. 910; same v. Cutter, 11 F. R. 794; same v. same, 18 F. R. 635; same v. Cleveland, 18 F. R. 37; Ova Wood v. Sandy Creek, 60 F. R. 285; Binns v. Zucker, 70 F. R. 711; Thompson v. Bushnell, 96 F. R. 238; Welsbach v. Rex, 94 F. R. 1001; R. Thomas v. Electric, 111 F. R. 923; Am. Sulphite v. De Grasse, 157 F. R. 660; Commercial Acetylene v. Avery, 166 F. R. 907; Arbetter v. Lewis, 154 O. G. 516; In re Hodginson, 182 O. G. 251; Chicago Film v. Motion, 186 F. R. 989; General Electric v. Laco, 233 F. R. 96; Tuck v. Bramhill, 3 Fish. 400; In re Heath, 230 O. G. 335; Jenkins v. Walker, 1 O. G. 359; Goodyear v. Smith, 5 O. G. 585; Goodyear v. Root, 6 O. G. 154; Goodyear v. Willis, 7 O. G. 41; Smith v. Goodyear, 93 U. S. 486; Phillips v. Detroit, 16 O. G. 627; Ex parte Shannon, 59 O. G. 297; Nimmy v. Comr. Pats., 86 O. G. 345; Marsden v. Comr. Pats., 87 O. G. 1239. The first board which really replaces lath and plaster is patentable. Sackett v. Ratkowsky, 167 F. R. 138. Colored asphalt roofing. Standard Paint v. Bird, 175 F. R. 346. Corrugated nail. Dunbar v. Field, 4 F. R. 543; Gilbert v. Watzelhan, 197 F. R. 315; Dart v. Saylor, 212 F. R. 407; Stilwell v. McPherson, 218 F. R. 839. A fabric is anticipated by substantially the same, even though too narrow to fulfill the utility of the patented fabric. Smith v. Elliott, 1 O. G. 331. Wooden pipes coated with boiled tar and sawdust, novel over tar and sand. Hobbie v. Smith, 27 F. R. 656. Shoe tip of muslin stiffened with shellac, not anticipated by rubber tip or fabric alone. Shuter v. Davis, 16 F. R. 564. An insulator made by fusing not patentable over mere cementing. In re Locke, 94 O. G. 432. But see King v. Gallum, 109 U. S. 99; and Phillips v. Detroit, 111 U. S. 604. See N. Y. Belt v. Magowan, 141 U. S. 332. "Filament" in electric lamp. Edison Electric v. U. S. Elec., 52 F. R. 300. But utility must be revolutionary or the patent is invalid. Johnson v. Hero Fruit Jar. 55 F. R. 659.

[194]Schillinger v. Gunther, 14 O. G. 713; same v. same, 11 O. G. 831; same v. same, 16 O. G. 905; same v. Perine, 8 F. R. 821; New York Belting v. Magowan, 27 F. R. 362; 141 U. S. 332; Shannon v. Brunner, 33 F. R. 289; Electric Accumulator v. N. Y., 50 F. R. 81; Accumulator v. Edison, 63 F. R. 979; Hatch v. Electric Storage, 100 F. R. 975; A. B. Dick v. Fuerth, 57 F. R. 834; Brush v. Milford, 58 F. R. 387; A. B. Dick v. Wichelman, 74 F. R. 800; American Gramophone v. Leeds, 87 F. R. 873; Forsyth v. Garlock, 142 F. R. 461; Ex parte Gunther, 1871 C. D. 199; Ex parte Lupton, 5 O. G. 489; Lewis v. Semple, 177 F. R. 407; Ex parte Phillips, 12 O. G. 311; Ex parte Odheimer, 49 O. G. 1693; Cheneau v. Comr. Pats., 70 O. G. 924; California v. Schalicke, 119 U. S. 401;

ment.[195] The claims will often be held[196] invalid unless they bring out the utility or some[197] coöperation of elements which will serve as an identifying test. The underlying theory of coördination of elements of a manufacture or composition itself is often controlling in deciding questions of novelty[198] and in-

Hurlburt v. Schillinger, 130 U. S. 456; Rajah v. Emil, 188 F. R. 73; American Rolled Gold v. Coe, 212 F. R. 720; Rembusch v. Bennethum, 214 F. R. 257; Stead Lens v. Kryptok, 214 F. R. 368; Fitchburg Duck v. Barrell, 214 F. R. 777; Sporting v. Haskell, 217 F. R. 407; Ex parte Milligan, 1871 C. D. 215. Ticket in terms of money instead of mileage valid. Rand McNally v. Exchange Script, 187 F. R. 984; but see same, 203 F. R. 278. Size controls. Johnston v. American Heat, 48 F. R. 446. But the structure must be really new. Browning v. Colorado, 61 F. R. 845. Compare Am. Split Feather v. Levy, 43 F. R. 381. Compare Andrews v. Thum, 67 F. R. 911. Digester with continuous cement lining valid. Am. Sulphite v. Howland, 80 F. R. 395. No utility in new coördination,—void. Am. Steel v. Denning, 160 F. R. 125. The first board which really replaces lath and plaster is patentable. Sackett v. Rathowsky, 167 F. R. 138. But making it in continuous sheets or larger than it was does not make a new article. Ex parte Cobb, 5 O. G. 751. Ribs in new place in rubber shoe not patentable. Meyer v. Prichard, 7 O. G. 1012. Gutta percha covered wire has new utility as electric conductor; patentable though other things had been so covered. Colgate v. Western Union, 14 O. G. 943.

[195]Commercial Acetylene v. Avery, 166 F. R. 907; California Artif. v. Starr, 52 F. R. 297; American Sulphite v. St. Regis, 217 F. R. 51; Brown v. Rubber Step, 13 O. G. 369; Rubber Step v. Metropolitan, 13 O. G. 549; Goodyear v. Mullee, 3 Fish. 209; Ready v. Taylor, 3 Ban. and A. 368; Strong v. Nobel, 3 Fish. 586; Kuhl v. Mueller, 21 F. R. 510; California Artif. Stone v. Freeborn, 17 F. R. 735; Schillinger v. Middleton, 31 F. R. 736; Schillinger v. Gunther, 11 O. G. 831; Tibbe v. Missouri, 62 F. R. 158; Thrall v. Poole, 89 F. R. 718. A "thread" covers a "band" where utility is the same. Haskell v. Perfect, 143 F. R. 128. A series of coatings breaking joints covers a continuous one. American Sulphite v. Burgess, 103 F. R. 975. Glue and glycerine in lining pipe. Taylor v. Archer, 4 Fish. 449, but compare Union Tubing v. Patterson, 27 F. R. 79.

[196]Hide Ite v. Fiber, 226 F. R. 34; Ex parte Rogers, 49 O. G. 1361. But see Ex parte Pease, 202 O. G. 631. The utility so brought out must be novel. Milton v. Jordan, 208 F. R. 569.

[197]Daniel Green v. Dodgeville, 210 F. R. 164. The elements, not the resulting composition should have its properties defined. North Am. Chemical v. Keno, 227 F. R. 63.

[198]Brown v. Dist. of Columbia, 130 U. S. 87; Gandy v. Main Belting, 143 U. S. 487; In re Carpenter, 112 O. G. 503. In re Faber, 136 O. G. 229; In re Harbeck, 191 O. G. 586; In re Ferris, 192 O. G. 745; In re Groves, 200 O. G. 856; Burt v. Evory, 133 U. S. 349; Reed v. Street, 34 O. G. 339; De Florez v. Reynolds, 3 Ban. and A. 292; McEwan v. McEwan, 91 F. R. 787; Am. Grass v. Choate, 159 F. R. 140; Western Tube v. Rainear, 156 F. R. 49; 159 F. R. 431; Hogan v. Westmoreland, 167 F. R. 327; Electric Storage v. Philadelphia, 211 F. R. 154; Dart v. Saylor, 212 F. R. 407; Consolidated v. Hassam, 227 F. R. 436; Welling v. Rubber Coated, 7 O. G. 606; reversed 97 U. S. 7; Dalton v. Nelson, 9 O. G. 1112; Collender v. Came, 10 O. G. 467; Epinger v. Richey, 12 O. G. 714. Lovejoy v. Hill, 17 O. G. 331; Ex parte Strong 17 O. G. 446. Collar fabric made of sheets of celluloid and linen, not anticipated by liquid celluloid on linen collars. Celluloid v. Chrolithion, 23 F. R. 397; 25 F. R. 482. Nor does non-celluloid anticipate celluloid structure. Celluloid v. Chrolithion, 24 F. R. 275. See also Celluloid v. Am. Zylonite, 35 F. R. 417. A better bicycle rim is not patentable when only an evolution. Pope v. Clark, 46 F. R. 789. Even if it is only saving great expense. Edison v. Novelty, 167 F. R. 977. In a composition. Chadeloid

fringement,[199] though the terms of a[200] specification will often control, as well as the prior art.[201] A manufacture,[202] like a door mat having patterns to produce shadow effects is patentable (as a design), but mere printing[203] on an old fabric is not patentable[204] even to produce a mercantile[205] form, though a street car transfer ticket may be patentable[206] because of the utility of the notations printed thereon as mechanical aids to the conductor issuing the transfer. Adding details to or using improved materials on an old structure to fit it for new[207] use will not ordinarily make it patentable, but where some totally[208] unexpected utility becomes apparent thereby, the new manufacture is patentable, and a patent will be construed to cover other manufactures

vs Wilson, 220 F. R. 681; 224 F. R. 481. Porcelain knob not patentable. Hotchkiss v. Greenwood, 11 How. 248. Or where a new material makes a new utility. Smith v. Goodyear, 93 U. S. 486.

199N. Y. Asbestos v. Ambler Asbestos, 103 F. R. 316; H. W. Johns v. Robertson, 60 F. R. 900; 77 F. R. 985; Atlantic v. Climax, 72 F. R. 925; Steel Clad v. Mayor, 77 F. R. 736; reversed 80 F. R. 904; A. B. Dick v. Wichelman, 80 F. R. 519; Peerless Rubber v. White, 118 F. R. 827; Chadeloid v. De Ronde, 146 F. R. 988; Electric Storage v. Philadelphia, 211 F. R. 154; American Roll Gold v. Coe, 212 F. R. 720; Forsyth v. Clapp, 4 O. G. 527; Welling v. Rubber Coated, 7 O. G. 606; Goodyear v. Flagg, 9 O. G. 153; Dalton v. Nelson, 9 O. G. 1112; Goodyear v. Davis, 12 O. G. 1; 102 U. S. 222; Hoff v. Iron Clad, 139 U. S. 326; Voorhees Rubber v. MacDonald, 231 F. R. 741; Herzog v. Keller, 234 F. R. 85; De Florez v. Reynolds, 3 Ban. and A. 292; U. S. Metallic v. Hewitt, 236 F. R. 739. In a composition. Chadeloid v. Wilson, 220 F. R. 681; 224 F. R. 481.

200Thompson v. Jennings, 66 F. R. 57; Steel Clad v. Davison, 80 F. R. 904; 81 F. R. 868; George Frost v. Cohn, 119 F. R. 505; Gilbert v. Watzelhan, 197 F. R. 316; Standard Paint v. Bird, 218 F. R. 373; Trussed v. Corrugated, 222 F. R. 514; Orr v. Aschenbach, 225 F. R. 71.

201Thompson v. Jennings, 66 F. R. 57; Atlantic v. Climax, 72 F. R. 925. A mere reversing of the prior structure may be patentable. Edison v. Novelty, 167 F. R. 977.

202N. Y. Belt v. N. J. 48, F. R. 556; 137 U. S. 445; 53 F. R. 810. See also Royce v. Fifield, 18 F. R. 262. Compare enamelled steel. National Enamelling v. N. E., 139 F. R. 643; reversed 151 F. R. 19. But a collar made from embossed paper is not patentable. Union v. Leland, 7 O. G. 221.

203Compare ex parte Loewenberg, 1869 C. D. 92. Nor making celluloid imitate onyx. Arlington v. Celluloid, 97 F. R. 91.

204Brigham v. Coffin, 149 U. S. 557. Compare Union Paper Collar v. Van Deusen, 23 Wall. 530.

205So a method of bookkeeping is not patentable. Hotel v. Lorraine, 155 F. R. 298.

206Cincinnati v. Pope, 210 F. R. 443. Compare Benj. Menu v. Rand, 210 F. R. 285; and ex parte Moeser, 118 O. G. 590; 123 O. G. 655. Compare Hollister v. Benedict, 113 U. S. 59.

207De La Vergne v. Valentine, 66 F. R. 765; Reynolds v. Standard, 68 F. R. 483; Plastic v. City, 97 F. R. 620; N. Y. Belt v. Sierer, 158 F. R. 819; Smith v. Nichols, 21 Wall. 112; Union Paper Collar v. Van Deusen, 23 Wall. 530. Not even if cheapness of manufacture is obtained. Cover v. Am. Thermo Ware, 188 F. R. 670. Can with joints both soldered and lap clamped, void. Combined Patents v. Lloyd, 11 F. R. 153. Foundation honey comb patent mentioning wax as ingredient, anticipates wax foundation. Van Deusen v. Nellis, 18 F. R. 596.

208Griffith v. Murray, 46 F. R. 660; Collins v. Gleason, 68 F. R. 915; Geo. Frost v. Cohn, 119 F. R. 505; Celluloid v. Chrolithion, 25 F. R. 482.

avoiding the terms of the claim but attaining the same unexpected[209] utility. So the fact that structures are integral[210] does not ordinarily make them patentable, but the question of analogous[211] arts in this question and with reference to other manufactures, is one on which it seems impossible to lay down any broad principle not varying with the meaning of the phrases "analogous art" and "common knowledge." An article devised so as to be made by machinery is not[212] patentable where a similar one was hand made.

In the interest of equity a given fabric is held not patentable when a[213] patent exists on a tire made from the fabric, and a coated paper is not patentable when a patent exists for coating whose[214] primary use is to make the same paper. Here of course identity of invention is apparent, whereas the paper bag making process[215] patent the machine and process were held absolutely independent.

Patent Office[216] practice is often severe compared with Court practice, but this is often justified because an applicant has many remedies while his application is pending, but almost none, except a hazardous reissue, after his application is patented. It is now held that where[217] process and apparatus are mutually dependent they may be joined in one application, but usually[218] not otherwise, but the whole matter lies in the discretion of the Office which may sometimes permit a process, a product and a machine to be included in one application[219] and also a

[209]Celluloid v. Chrolithion, 23 F. R. 397; 25 F. R. 482; United Indurated v. Whippany, 83 F. R. 485. But not when the difference between the prior art and the patent is difficult to define. Societe Anon. v. Allen, 84 F. R. 812; but see appeal, 90 F. R. 815; Geo. Frost v. Cohn, 119 F. R. 505; Oriental Tissue v. Louis, 218 F. R. 170; but see 234 F. R. 895.

[210]But a built-up wood bicycle rim was patentable. Fairbanks Wood Rim v. Moore, 78 F. R. 490. Compare Excelsior Drum v. Bortel, 190 F. R. 10. Compare Dodge v. Ohio, 101 F. R. 584. Compare Ex parte Grayson, 68 O. G. 1021.

[211]Rubber eraser with soft finish, valid over other soft rubber articles. Lockwood v. Hooper, 25 F. R. 910, and citations therein.

[212]American Whip v. Hampden, 4 F. R. 536; Roehr v. Bliss, 82 F. R. 445. Or made by swaging instead of casting. Strom v. Weir, 83 F. R. 170. Compare Rynear v. Evans, 83 F. R. 696.

[213]Palmer v. Lozier, 90 F. R. 732.

[214]Underwood v. Gerber, 149 U. S. 224.

[215]Eastern Paper Bag v. Standard, 30 F. R. 63. Compare ex parte Kerr, 53 O. G. 919.

[216]See, on division of applications, Report of Commissioner of Patents, 235 O. G. at 704.

[217]Ex parte McMahan, 48 O. G. 255; Ex parte Lord, 50 O. G. 987; Ex parte Norwood, 50 O. G. 1129; Ex parte Hyde, 50 O. G. 1293; Ex parte Everson, 63 O. G. 1381; Steinmetz v. Allen, 192 U. S. 543; Ex parte Ament, 116 O. G. 596.

[218]Ex parte Herr, 41 O. G. 463; Ex parte Simonds, 44 O. G. 445; Ex parte Frasch, 91 O. G. 459; Ex parte Fish, 91 O. G. 1615. Compare Old Rule 41 in ex parte Boucher, 88 O. G. 545. Compare Gage v. Kellogg, 23 F. R. 891. Compare ex parte Blythe, 30 O. G. 1321; Compare in re Frasch, 100 O. G. 1977.

[219]Ex parte Elbers, 12 O. G. 2; Ex parte Dailey, 13 O. G. 288. Often it is safe to apply separately. Victor Talking v. Am. Gramophone, 189 F. R. 359. But see ex parte Cobb, 16 O. G. 175.

process,[220] sub process, and sub products. Where the division has been required the process will not be rejected on the[221] apparatus and functional claims should be[222] rejected, not required to be divided out.

A drawing illustrating[223] the process must be furnished if the process is capable of illustration. The Examiner[224] may require demonstration of operativeness of a process.

It is impossible to lay down any line which will justify the decisions[225] requiring division between process and product[226] and reversing such requirement. But it is settled that having elected one species the applicant cannot[227] shift to another except where otherwise great[228] hardship would result. Two arts cannot be covered in the[229] same patent if divisible. Division is usually required between a com-

[220]Ex parte Du Motay, 16 O. G. 1002; Ex parte Elbers, 1877 C. D. 123; Ex parte Oxnard, 88 O. G. 1526. For division in interference see ex parte Powrie, 99 O. G. 2549; Power v. Proeger, 101 O. G. 3108; Ex parte Davis, 105 O. G. 1783; Ex parte Du Motay, 16 O. G. 1002.

[221]Ex parte Chambers, 51 O. G. 1943. And process claims will not be suggested to an applicant claiming apparatus only. Ex parte Werner, 139 O. G. 197. Compare Bowers v. Von Schmidt, 80 F. R. 122; Finley v. Chapman, 1 O. G. 277.

[222]Ex parte Steinmetz, 117 O. G. 901. Compare ex parte Smyth, 114 O. G. 762. Ex parte McClellan, 59 O. G. 1763. Ex parte Williams, 61 O. G. 423.

[223]Compare ex parte Hafely, 64 O. G. 559. Compare ex parte, Russell, 84 O. G. 2021. Compare ex parte Henry, 99 O. G. 1170; Ex parte Carter, 16 O. G. 809.

[224]Ex parte Wynne, 176 O. G. 1070.

[225]Ex parte O'Neill, 16 O. G. 1049; Ex parte David, 16 O. G. 1139; Ex parte Tainter, 47 O. G. 135; Ex parte Greenfield, 58 O. G. 274; Ex parte Tymeson, 83 O. G. 593; Ex parte Murmann, 93 O. G. 1721; Ex parte Erdman, 93 O. G. 2531; Ex parte Reid, 96 O. G. 2060; Ex parte Parent, 98 O. G. 1970; Ex parte Powell, 99 O. G. 1384; Ex parte Foulis, 100 O. G. 232; Ex parte Lee, 100 O. G. 233; Ex parte Cowper-Coles, 100 O. G. 681; Ex parte Schmidt, 100 O. G. 2602; Ex parte Christensen, 105 O. G. 1261; Ex parte Williams, 105 O. G. 1780; Ex parte Adams, 106 O. G. 541; Ex parte Very, 106 O. G. 766; Ex parte Frasch, 117 O. G. 1166; In re Frasch, 122 O. G. 1048; Ex parte Stemple, 197 O. G. 997; Compare Mosler v. Mosler, 127 U. S. 354. Compare Goodyear v. Wait, 3 Fish. 242. But the validity of a patent is not affected if both stand in one application. R. Thomas v. Electric 111 F. R. 923. For division in case of interference see ex parte Powrie, 99 O. G. 2549.

[226]Ex parte Tyne, 17 O. G. 56; Ex parte Young, 33 O. G. 1390; Ex parte de la Sala, 42 O. G. 95; Ex parte Fefel, 57 O. G. 409; Ex parte Curtis, 57 O. G. 1128; Ex parte Hines, 60 O. G. 576; Ex parte Demeny, 64 O. G. 1649; Ex parte Thomson, 66 O. G. 653; Ex parte Kny, 65 O. G. 1403; Ex parte Bennett, 105 O. G. 1262; Ex parte Dallas, 106 O. G. 996. Compare ex parte Scott, 147 O. G. 520. Compare ex parte Blair, 43 O. G. 113.

[227]Ex parte Wohltmann, 16 O. G. 723; Ex parte Zabel, 43 O. G. 627; Ex parte Eschner, 63 O. G. 760; Ex parte Aberli, 91 O. G. 2371; Ex parte Randall, 95 O. G. 2063; Ex parte Ferrell, 106 O. G. 766; Ex parte Feld, 112 O. G. 252; Ex parte Walker, 113 O. G. 284; Ex parte Lawley, 113 O. G. 1967; Ex parte Stroh, 180 O. G. 1137; Ex parte Stimson, 226 O. G. 699. Compare ex parte McDougall, 18 O. G. 130. Compare ex parte Hopkinson, 54 O. G. 264.

[228]Ex parte Trevette, 97 O. G. 1173.

[229]Ex parte Rappleye, 85 O. G. 2096; Ex parte Osborne, 86 O. G. 492.

position and a structure or method[230] of using it. Also between a[231] machine and its product. A method of making a matrix and an article made therein must be applied for[232] separately, also a composition[233] and its container. It was formerly held with some[234] degree of logic that a composition patent could contain but a single claim. The better practice in the Patent Office is that the various claims for a[235] process or a composition[236] may bear the relation of genus and species, if the utility of each claim for the incomplete process or composition is set forth in the specification. A claim must not[237] be alternative, but an applicant should be allowed great[238] latitude in drawing claims.

A claim is[239] "functional" when it merely claims a "principle" or

[230]Ex parte Tschirner, 97 O. G. 187. Compare ex parte Clay, 101 O. G. 2567; Ex parte Stocking, 101 O. G. 2823.

[231]Ex parte Murray, 3 O. G. 659; Ex parte Chamberlain, 6 O. G. 544; Ex parte Junker, 11 O. G. 110; Ex parte Wintherlich, 16 O. G. 404; 16 O. G. 808. Compare ex parte Chapman, 102 O. G. 820.

[232]Ex parte Jennens, 108 O. G. 1587.

[233]Ex parte Baker, 4 O. G. 155.

[234]Ex parte Lippincott, 16 O. G. 632. Compare ex parte Wheat, 16 O. G. 360. Compare Panzl v. Battle Island, 138 F. R. 48.

[235]Ex parte Wilson, 16 O. G. 96; Ex parte Smith, 16 O. G. 630; Slade v. Blair, 17 O. G. 261; Ex parte McDougall, 18 O. G. 130.

[236]Ex parte Hentz, 26 O. G. 437; Ex parte Gassmann, 90 O. G. 959.

[237]Ex parte Caldwell, 120 O. G. 2125; Ex parte Phillips, 135 O. G. 1801. But see In re Ellis, 167 O. G. 981.

[238]Ex parte Pease, 202 O. G. 631; Ex parte Kilbourn, 221 O. G. 737. Compare Byerley v. Barber, 230 F. R. 995. But see ex parte Chapman, 120 O. G. 2446.

[239]Mershon v. Bay City Box, 189 F. R. 741; Matthews v. Stoneberger, 4 F. R. 635; Brainard v. Cramme, 12 F. R. 621; Hatch v. Moffit, 15 F. R. 252; Reay v. Berlin and Jones Envelope, 191 F. R. 311; Same v. Raynor, 19 F. R. 308; Dryfoos v. Wiese, 19 F. R. 315; 124 U. S. 32; Chicopee Folding Box v. Rogers, 32 F. R. 695; Columbus v. Robbins, 64 F. R. 384; Wells Glass v. Henderson, 67 F. R. 930; Gindorff v. Deering, 81 F. R. 952; Stokes v. Heller, 96 F. R. 104; Cleveland v. Detroit, 131 F. R. 740; American v. Sexton, 139 F. R. 564; Queen v. Friedlander, 149 F. R. 771; Conroy v. Penn, 155 F. R. 421; Penn v. Conroy, 159 F. R. 943; Am. Steel v. Denning, 160 F. R. 108; 169 F. R. 739; A. B. Dick v. Henry, 160 F. R. 690; Union Match v. Diamond, 162 F. R. 148; Eastern Dynamite v. Keystone, 164 F. R. 47; Breuchaud v. Mutual, 166 F. R. 753; Royden Marble v. Davis, 189 F. R. 622; W. B. Mershon v. Bay City, 189 F. R. 741; U. S. v. Selma Fruit, 195 F. R. 264; Ball v Coker, 210 F. R. 278; Union v. Singer, 215 F. R. 598; Spirella v. Nubone, 216 F. R. 898; O'Reilly v. Morse, 15 How. 62; Burr v. Duyee, 1 Wall. 531; Case v. Brown, 2 Wall. 320; Renwick v. Pond, 2 O. G. 392; Marsh v. Dodge, 5 O. G. 398; Ex parte Holmes, 6 O. G. 360; Wheeler v. Simpson, 6 O. G. 435; Case v. Hastings, 7 O. G. 557; Ex parte Hahn, 8 O. G. 597; Ex parte Shippen, 8 O. G. 726; Ex parte Keith, 9 O. G. 793; Ex parte Harrison, 10 O. G. 373; Swain v. Ladd, 11 O. G. 153; Fuller v. Yentzer, 94 U. S. 288; 94 U. S. 299; Henderson v. Cleveland, 12 O. G. 4; Ex parte Roloson, 15 O. G. 471; Ex parte Barrett, 45 O. G. 125; Ex parte Young, 46 O. G. 1635; Ex parte Jaeger, 46 O. G. 1637; Ex parte Kerr, 53 O. G. 919; Moulton v. Comr. of Pats., 61 O. G. 1480; Ex parte Holt, 68 O. G. 536; Ex parte Knudsen, 72 O. G. 589; Ex parte Halfpenny, 73 O. G. 1135; Risdon v. Medart, 158 U. S. 68; Boyden v. Westinghouse, 170 U. S. 537; Ex parte Cunningham, 101 O. G. 2288; 102 O. G. 842; Busch v. Jones, 184 U. S. 599; Ex parte McClain, 119 O. G. 1585; Ex parte Dixon, 123 O. G. 653; Ex parte

function, or when it fails to state any industrial utility of the invention in terms of the environment to which the invention contributes the new function. The question of what is "new matter"[240] in a process or composition application is obscure in view of the wording of the statute. "Substantially as described" is[241] sufficient definition in a claim.

Verbose and indefinite[242] specifications and closely parallel[243] claims are just as objectionable as in mechanical patents, so also are nebulous claims, and claims which are not clearly directed to[244] either a process or composition or a manufacture, and therefore are indefinite but[245] extra descriptive matter in claims may be ignored by the Examiner.

Bullock, 127 O. G. 1580; Ex parte Plumb, 131 O. G. 1165; Ex parte Bitner, 140 O. G. 256; Leeds and Catlin v. Victor, 213 U. S. 301; Continental Paper v. Eastern, 210 U. S. 414; In re Tallmadge, 174 O. G. 1219; In re Gold, 180 O. G. 606; Burke Electric v. Independent, 232 F. R. 145; Parham v. American Buttonhole, 4 Fish. 468; In re Fessenden, 226 O. G. 1081. Compare in re Gardner, 140 O. G. 258; Functional claims may be reissued as machine. Motion Picture v. Laemmle, 214 F. R. 787; Compare Stimson v. Woodman, 10 Wall. 1117. Compare ex parte Pacholder, 51 O. G. 295.

[240]Ex parte Gottstein, 11 O. G. 1061; Ex parte Dieckerhoff, 12 O. G. 429; Ex parte Temple, 12 O. G. 795.

[241]Ironclad v. Jacob J. Vollrath, 52 F. R. 143.

[242]Ex parte Elbers, 1877 C. D. 123; Schlicht v. Aeolipyle Co., 117 F. R. 299. They may be too indefinite. Matheson v. Campbell, 78 F. R. 910.

[243]Schlicht v. Aeolipyle, 117 F. R. 299; National Enamelling v. N. E., 151 F. R. 19.

[244]Ex parte Designolle, 13 O. G. 227. Compare ex parte Wintherlich, 17 O. G. 55.

[245]Ex parte Designolle, 13 O. G. 227.

TABLE OF CASES.

(References are to Notes.)

A.

Aberli, 227.
A. B. Dick v. Belke, 179, 180.
—— v. Fuerth, 194.
—— v. Henry, 75, 239.
—— v. Pomeroy, 177.
—— v. Underwood, 5, 131.
—— v. Wichelman, 182, 187, 194, 199.
Accumulator v. Edison, 194.
—— v. Consolidated Elec. Storage, 119.
—— v. Julien, 95.
—— v. Ach, 93,
—— v. Ackerson, 192.
Acme Acetylene v. Commercial, 92, 97.
Acme Steel v. American, 111.
Adams, 225.
Adams v. Bridgewater, 38, 93, 163.
—— v. Loft, 178, 180.
—— v. Tannage, 75.
Adams and Westlake v. Wilson, 114.
Adamson v. Dederick, 43.
Ajax v. Brady, 85, 181.
Alabastine v. Payne, 123.
Alden v. Brown, 52.
Allen v. Alter, 90, 131.
—— v. Hunter, 77, 179.
Allen Evaporating v. Bowen, 57.
Alvin v. Scharling, 91.
Am Ende v. Seabury, 126.
Ames v. Howard, 1.
Andrews v. Carman, 77, 87.
—— v. Eames, 125.
—— v. Thum, 194.
Ansonia Brass v. Electrical, 75, 85.
Appert v. Brownsville, 137.
—— v. Parker, 95.
—— v. Schmertz, 67, 137.
Appleton v. Ecaubert, 79.
—— v. Starr, 30, 50.
Ament, 217.
American Crayon v. Sexton, 239.
—— Featherbone v. Warren, 131.
—— Fibre Chamois v. Buckskin, 7, 40.
—— Fibre Chamois v. Port Huron, 43, 109.
—— Gramophone v. Gimbel, 19, 97.
—— Gramophone v. Victor, 141.
—— Gramophone v. Walcutt, 170.
—— Grapnophone v. Leeds, 33, 140, 170, 194.
American Graphophone v. Universal, 33, 40, 75.
—— Grass v. Choate, 198.
—— Mfg. v. Lane, 145.
—— Mercerizing v. Hampton, 85.
—— Middlings v. Atlantic, 107.
—— Nicholson Paving v. Elizabeth, 126 .
—— Rolled Gold v. Coe, 194, 199.
—— Solid v. Empire, 146.
—— Split Feather v. Levy, 194.
—— Steel v. Denning, 194, 239.
—— Stove v. Cleveland, 114, 115.
—— Strawboard v. Elkhart, 30.
—— Sulphite v. Burgess, 195.
—— Sulphite v. De Grasse, 193.
—— Sulphite v. Hinkley, 176.
—— Sulphite v. Howland, 194.
—— Sulphite v. St. Regis, 195.
—— Tube v. Bridgewater, 85, 163.
—— Whip v. Hampden, 212.
—— Wood Paper v. Fiber, 62, 82, 93, 157.
—— Wood Paper v. Heft, 25.
Arbetter v. Lewis, 193.
Arkell, 153.
Arlington v. Celluloid, 51, 203.
Arnold v. Pettee, 52.
—— v. Phelps, 24, 78, 90.
Asbestos Shingle v. H. W. Johns, 75, 104, 105.
—— v. Rock, 75, 105.
Atlantic Dynamite v. Climax, 199, 201.
Atlantic Giant v. Dittmar, 84, 137, 177.
—— v. Goodyear, 107, 188.
—— v. Mowbray, 177, 188.
—— v. Parker, 81.
—— v. Rand, 81, 107.
Atwood, 103.

B.

Badische Anilin v. Hamilton, 104, 163, 181.
—— v. Higgin, 104, 181.
—— v. Kalle, 81, 163, 178, 179.
—— v. Klipstein, 178.
Bailey v. Lincoln, 150, 176.
Bainbridge v. Kitchell, 75.
Baker, 233.
Baker v. Duncombe, 75.
Baker Lead v. National, 84, 85, 114, 115.

(References are to Notes.)

Ball v. Coker, 43, 239.
Ballou v. Potter, 22, 77, 88.
Barber v. National, 140.
Barcley v. Schuler, 137.
Barney, 77.
Barrett, 239.
Barrett v. Ewing, 157.
Barrow v. Wetherill, 27, 67.
Bartey v. Lincoln, 7.
Bate, 145.
Bates v. Duncombe, 163.
Beach v. Fowler, 137.
Bean v. Smallwood, 1.
Becker v. Bird, 137.
Bedford v. Comr. of Pats., 95.
Bell v. Gray, 10, 17, 48.
Bender v. Engel, 131.
—— v. Hoffman, 183, 190.
Béné v. Jeantet, 22, 77, 168, 131.
Benj. Menu v. Rand, 206.
Bennett, 226.
Benson, 106.
Berardini v. Tocci, 72.
Berolzheimer, 72.
Beryle v. San Francisco, 39.
Bethlehem v. Niles, 52, 56.
Bettendorf v. J. A. Little, 75.
Bierce, 72.
Binder v. Atlanta, 115.
Binns v. Zucker, 193.
Bissel v. Robert, 132.
Bitner, 239.
Black v. Thorne, 126.
Blackmore, 75, 77, 107.
Blair, 226.
Blair v. Jeanette, 115, 119.
Blakesley Novelty v. Connecticut Web, 81, 88.
Blount v. Societe etc. Filter, 177.
Blumenthal v. Burrell, 138, 163, 170, 185.
Blumer, 41.
Blythe, 218.
Bogart v. Hinds, 16.
Bond, 157.
Boneless v. Roberts, 68, 125.
Bonsack v. Elliot, 75.
Boon v. Hinman, 190.
Boston Elastic v. Easthampton, 10.
Bottling v. Anheuser Busch, 80, 81.
Boucher, 218.
Bowers v. Pacific, 91.
—— v. San Francisco, 81.
—— v. Von Schmidt, 81, 221.
Bowker v. Dows, 123.
Bowman v. De Grauw, 75.
Boyd v. Cherry, 85, 123.
Boyden v. Westinghouse, 10, 239.
Boykin v. Baker, 183.
Boynton v. Taggart, 131.
Bracewell v. Passaic, 22, 144.
Braemer, 90.
Brainard v. Cramme, 239.
Braun v. Wahl, 137.
Braunstein v. Holmes, 136.
Brett v. Quintard, 93.
Breuchaud v. Mutual, 33, 35, 36, 239.
Bridge v. Brown, 131, 137.
Bridgeport v. Hooper, 178.
Brigham v. Coffin, 204.
Brown v. Dist. of Columbia, 198.
—— v. Hewitt, 187.
—— v. Piper, 75.
—— v. Rubber Step, 195.
—— v. Thorne, 102, 114.
Browning v. Colorado, 194.
Bruff v. Ives, 79, 90.
Brummit v. Howard, 75.
Brush Electric v. Accumulator, 95.
—— v. Julien, 155.
—— v. Milford, 194.
Buchanan v. Howland, 25, 26.
Bucken v. McKesson, 182.
Buell v. Shaeffer, 137.
Buffalo Specialty v. Indiana, 141.
Bullier v. Willson, 133.
Bullock, 239.
Bullock Electric v. Crocker, 39, 66, 97.
—— v. Westinghouse, 10, 123.
Bump's v. Gessler, 90.
Burdon v. Williams, 44, 51, 81, 84.
Burke Electric v. Independent, 239.
Burr v. Cowperthwaite, 50, 60.
—— v. Duryee, 37, 60, 239.
—— v. Prentiss, 111.
Burrell v. Elgin, 52.
Burt v. Evory, 18, 146, 198.
Busch v. Jones, 75, 239.
Butterfield, 49.
Butz, 46.
Buzzell v. Andrews, 13.
Byam v. Eddy, 179.
—— v. Farr, 148, 149.
Byerley v. Barber, 51, 81, 90, 238.
—— v. Ellis, 90, 92.
—— v. Standard Asphalt, 90, 92.
—— v. Sun, 45, 170.
Byerly v. Cleveland, 40, 81, 126.
—— v. Sun, 126.

C.

Cahill v. Beckford, 113.
—— v. Brown, 81.
—— v. Lockford, 181.

(References are to Notes.)

Caldwell, 237.
California Artif. Stone v. Freeborn, 195.
—— v. Schalicke, 194.
—— v. Starr, 195.
Calm v. Schweinitz v. Dolley v. Geisler, 134.
Cambria v. Carnegie, 126.
Cameron Septic v. Knoxville, 95.
—— v. Village, 41, 81.
Campbell, 55.
Carborundum v. Electric, 85, 130.
Carew v. Boston, 46, 107, 127.
Carmichael v. Jackson, 75.
Carnegie v. Cambria, 23, 33, 79, 85, 117.
Carpenter, 198.
Carré, 138.
Cary v. De Haven, 119.
—— v. Lovell, 38, 81, 116.
—— v. Miller, 91.
—— v. Wolf, 114, 115, 116.
Case v. Brown, 239.
—— v. Hastings, 239.
Casein v. A. M. Collins, 107, 114 .
Carter, 223.
Caunt v. United, 68.
Celluloid v. Am. Zylonite, 61, 114, 125, 187, 198.
—— v. Arlington, 115, 119.
—— v. Cellonite, 91, 126.
—— v. Chrolithion, 170, 198, 208, 209.
—— v. Comstock, 90, 125.
—— v. Crofut, 84, 137.
—— v. Eastman, 92.
—— v. Frederick Crane, 146, 147.
—— v. Noyes, 75.
—— v. Pratt, 90, 125.
—— v. Russell, 77, 88.
—— v. Tower, 88, 90, 125.
Century Elec. v. Wagner, 114.
—— v. Westinghouse, 102, 113.
Cerealine v. Bates, 22, 24, 43, 109, 157, 163.
Chadeloid v. Daxe, 92.
—— v. De Ronde, 180, 199.
—— v. Thurston, 44, 82.
—— v. Wilson, 198, 199.
Chaffee v. Boston Belting, 131.
Chamberlain, 231.
Chambers, 221.
Champney, 51.
Chapman, 80, 231, 238.
Chase, 50, 76.
Chase v. Fillebrown, 28, 79, 81, 92.
Cheeseborough v. Toppan, 138.
Chemical v. Raymond, 22, 78.
Cheneau v. Comr. Pats., 194.
Chicago v. Charles Pope, 40, 53, 71.
Chicago Film v. Motion, 193.
Chicopee Folding Box v. Rogers, 239.
Chinnock v. Patterson, 92.
Chisholm v. Canastota, 80, 114.
—— v. Fleming, 34, 60, 80, 125.
—— v. Johnson, 34, 60, 86, 125.
—— v. Randolph, 80, 85.
Christensen, 225.
Cimiotti Unhairing v. Am. Fur, 14, 18.
Cincinnati v. Pope, 206.
Clark v. Johnson, 177, 190.
—— v. Kennedy, 91.
Clay, 230.
Clement v. Upson, 49, 93.
Clerk v. Tannage, 118.
Cleveland v. Detroit, 54, 101, 239.
Cleveland Target v. U. S. Pigeon, 90, 92, 181.
Clinton v. Wright, 46, 79.
Coal and Coke v. Ernst, 41, 44.
Cobb, 194, 219.
Cochrane v. Badische, 105, 168, 184.
—— v. Deener, 47, 79.
Codington v. Propfe, 130, 131.
Cohen v. U. S. Corset, 81.
Coldren v. Empire, 43.
Colgate v. Gold, 81.
—— v. Western Union, 194.
Colhoun v. Hodgson, 139.
Collender v. Bailey, 146.
—— v. Came, 198.
Collins v. Gleason, 208.
—— v. White, 131.
Colton, 50.
Columbia Chemical v. Rutherford, 177, 178, 180.
Columbus v. Robbins, 239.
Combined Patents v. Lloyd, 207.
Combustion Utilities v. Worcester Gaslight, 47, 60, 61, 113, 114, 115.
Commercial v. Fairbank, 50, 90, 95, 177.
—— Acetylene v. Acme, 95, 98.
—— Acetylene v. Avery, 180, 193, 195.
—— Acetylene v. Searchlight, 95, 98.
Commissioner of Patents, Report of, 216.
Commos v. Somers, 109.
Continental Paper v. Eastern, 239.
Continuous v. Schmertz, 126.
Conroy v. Penn, 50, 239.
Consolidated Bunging v. Brewing, 145.
—— Bunging v. Peter, 115.
—— Contract v. Hassam Paving, 40, 175, 198.
—— Electric v. McKeesport, 190.
Corbin, 184.
Corn Products v. Douglas, 117, 119.
Corner v. Kyle, 136.

(References are to Notes.)

Corning v. Burden, 10, 18, 50.
Cotter v. New Haven Copper, 109, 168.
Cottle v. Krementz, 63.
Cotto Waxo v. Perolin, 90, 181.
Coulton, 60.
Cover v. Am. Thermo Ware, 207.
Cowen v. Boston, 88.
Cowper-Coles, 225.
Crane v. Meriam, 100.
Crecelius, 61, 154.
Crescent v. Gottfried, 39, 67, 88.
Creveling, 24, 99, 102.
Creveling v. Jepson, 137.
Crippen, 183.
Croskey v. Atterbury, 137.
Crowell v. Harlow, 53.
—— v. Sim, 131.
Crown Cork v. Aluminum, 2.
—— v. American, 24.
—— v. Brooklyn, 90, 92, 115.
Cunningham, 239.
Curtis, 226.

D.

Daggett v. Kaufman, 137.
Dailey, 219.
Dallas, 226.
Dalton v. Nelson, 198, 199.
Damon v. Eastwick, 34, 84.
Danford, 180.
Daniel Green v. Dolgeville, 40, 81, 197.
Dart v. Saylor, 193, 198.
Davey v. Cutter, 34.
Davis, 220, 225.
Day v. Stellman, 141.
Daylight v. Ameican, 51.
Dayton v. Westinghouse, 58.
Dececo v. Gilchrist, 5, 18.
Decker, 81.
Dederick v. Cassell, 28, 100.
De Florez v. Reynolds, 198, 199.
De Lamar v. De Lamar, 39, 60.
de la Sala, 226.
De La Vergne v. Valentine, 207.
Delaware Metal Refining v. Woodfall, 65, 119.
Demeny, 226.
Deprez v. Bernstein v. Hunter v. Gaulard, 81, 95.
Designolle, 153, 244, 245.
Detmold v. Reeves, 54, 77.
Detroit Copper v. Mine, 18.
Dewey v. Colby, 106.
Diamond v. Brown, 13, 126.
—— v. Dean, 41.
—— v. Westinghouse, 95, 96.
Dick, see A. B. Dick.
Dickerson v. Maurer, 81, 163.
Dieckerhoff, 240.
Dieckmann v. Milwaukee, 10, 44.
Dittmar v. Rix, 24, 155, 168.
Dixon, 37, 72, 239.
Dodge v. Collins, 65.
—— v. Ohio, 210.
Doelger v. German-American, 29.
Dolbear v. Am. Telephone, 114, 137, 145.
Donaldson v. Marbolith, 46, 115.
—— v. Roksament, 46.
Donner v. Am. Sheet, 77.
Dorlan v. Guie, 85, 86, 189.
Dosselman, 24.
Doubleday v. Bracheo, 25.
Dougherty v. Doyle, 185.
Downs v. Teter-Heany, 24, 68, 115.
Downton v. Yeager Milling, 77, 81.
Doyle v. McRoberts, 131.
Draper v. Hudson, 159.
Dreyfus v. Searle, 50, 83.
Droop, 43.
Dryfoos v. Wiese, 239.
Du Motay, 146, 220.
Dunbar v. Field, 193.
Dunkley v. Beekhuis, 114.
Durand v. Green, 146.
—— v. Schultze, 146.
Dutcher v. Jackson, 137.

E.

Eachus v. Broomall, 100.
Eagleton v. West, 107.
Eames v. Andrews, 81, 91, 107, 113.
Eastern Dynamite v. Keystone, 239.
Eastern Paper Bag v. Standard, 39, 41, 103, 215.
Eastman v. Getz, 52, 109.
—— v. Hinkel, 178, 188.
Edison, 96, 99, 102.
Edison v. Allis, 30, 57, 65.
—— v. Hardie, 32.
—— v. Klaber, 90.
—— v. Novelty, 198, 201.
—— v. U. S. Elec., 193.
Eibel v. Remington, 12, 34.
Eisenstein v. Fibiger, 75.
Elbers, 219, 220, 242.
Elec. Accumulator v. Brush, 96, 156, 178, 164.
—— v. Julien, 81, 90.
—— v. N. Y., 90, 194.
Electric Boot v. Little, 76.
Electric Smelting v. Carborundum, 26, 114, 115, 116, 118.

(References are to Notes.)

Electric v. Pittsburgh, 46, 118.
Electric Storage v. Belknap, 92.
—— v. Gould, 114, 115.
—— v. Philadelphia, 80, 149, 198, 199.
Ellis, 237.
Emerson and Norris v. Simpson Bros., 45, 46, 81, 91, 131.
Engineer v. Hotel, 30, 137.
Epinger v. Richey, 198.
Erdman, 225.
Eschner, 227.
Evans v. Suess, 46.
Everest v. Buffalo Lubricating, 55, 81, 126.
Everett v. Haulenbeek, 46.
Everson, 217.
Excelsior v. Union Needle, 159.
Excelsior Drum v. Bortel, 210.
Expanded Metal v. Bradford, 11, 77.
—— v. Board of Education, 168.
Ewart v. Boline, 10, 16.

F.

Faber, 198.
Fabric Coloring v. Alexander, 5.
Fairbanks Wood Rim v. Moore, 210.
Falk v. Missouri, 3, 75.
Fancy v. Empire Fire Clay, 10.
Farbenfabriken v. Kuehmsted, 163, 177.
Farrel v. United Verde, 43, 50.
Fefel, 226.
Feld, 227.
Ferrell, 227.
Ferris, 198.
Ferris v. Batcheller, 146.
Ferro v. Concrete, 90, 92.
Fessenden, 239.
Finley v. Chapman, 106, 221.
Fireball v. Commercial, 92, 95, 97, 98.
Fire Extinguisher Case, 81.
Fish, 218.
Fitch v. Spang, 100, 115.
Fitchburg Duck v. Barrell, 194.
Flather v. Weber, 136.
Flora v. Powrie, 131.
Flower v. Detroit, 18.
Foote v. Silsby, 151.
Forbes v. Thomson, 100.
Ford v. Tannage, 118.
Forsyth v. Clapp, 199.
—— v. Garlock, 194.
Foulis, 225.
Fox v. Knickerbocker, 126, 127.
Francis v. Mellor, 24, 77, 107, 177.
Frankford Whiskey v. Mill Creek, 47 ,79.
Franklin v. Morton v. Cooley, 138.
Frasch, 47, 178, 218, 225.
French, 189.
French v. Holcomb, 136.
—— v. Rogers, 38.
Fried. Krupp v. Midvale, 43, 50, 62, 77, 94.
Fritts, 26.
Fry v. Rockwood, 75, 83.
Fuller v. Yentzer, 239.
Fullerton v. Anderson, 88, 90, 114, 126.

G.

Gage v. Kellogg, 84, 218.
Gandy v. Main Belting, 198.
Gardner, 239.
Gassmann, 236.
Gayler v. Wilder, 82.
Gaylord, 106.
Geis v. Kimber, 123.
General Bakelite v. Nikolas, 115, 179.
General Chemical v. Blackmore, 107.
General Electric v. Butler, 52.
—— v. Campbell, 92.
—— v. Garrett, 24, 44.
—— v. Germania, 45, 131.
—— v. Hill-Wright, 44, 45.
—— v. Hoskins, 56, 81.
—— v. Laco, 10, 34, 193.
—— v. McLaren, 131.
—— v. Morgan, 118.
—— v. Steinberger, 131, 136.
—— v. Sutter, 121.
—— v. Winona, 65.
—— v. Yost, 75, 189.
General Knit v. Steber, 28, 29.
General Subconstruction v. Netcher, 22.
George Frost v. Cohn, 200, 208, 209.
Georgia v. Billfinger, 22, 115.
German-American v. Erdrich, 41, 81.
—— v. Loew, 45, 65, 81, 114, 121, 122.
Giant Powder v. California Powder, 105.
Gibbs v. Hoefner, 39.
Gilbert v. Waltzelham, 22, 52, 116, 193, 200.
Gilmer, see L. H. Gilmer.
Gindorff v. Deering, 37, 239.
Globe Nail v. Superior, 81, 109.
—— v. U. S. Horse Nail, 81, 119, 155.
Gloucester Isinglass v. Brooks, 82, 84.
—— v. Le Page, 65, 75.
Gold, 239.
Gold v. U. S., 77, 107, 139.
Golden Gate v. Newark, 75 .
Goldie v. Diamond, 30, 33, 119.
Goodwin v. Eastman, 26, 42, 90, 93.
Goodyear v. Antwerp, 127.

(References are to Notes.)

—— v. Berry, 176, 188.
—— v. Beverley, 141, 142.
—— v. Blake, 105.
—— v. Cary, 141.
—— v. Central Railroad, 90.
—— v. Davis, 176, 199.
—— v. Dunbar, 48.
—— v. Evans, 188.
—— v. Flagg, 199.
—— v. Mullee, 195.
—— v. Preterre, 121.
—— v. Root, 193.
—— v. Rust, 188.
—— v. Smith, 193.
—— v. Wait, 77, 177, 181, 225.
—— v. Willis, 193.
Gordon v. Turko-Halvah, 180.
Goss v. Cameron, 93.
Gottfried v. Bartolomae, 39.
—— v. Conrad Seipp Brew., 110, 115.
—— v. Crescent Brewing, 22, 81.
—— v. Stahlmann, 90.
Gottstein, 240.
Graham v. Johnston, 51, 79, 81.
Grant v. Walter, 10, 20.
Graphic Arts v. Photo, 114.
Grayson, 210.
Greenfield, 225.
Grever v. U. S. Hoffman, 13.
Grier v. Wilt, 10.
Griffith, 169.
Griffith v. Murray, 208.
Groves, 198.
Guarantee v. New Haven Gas Light, 45, 61, 81.
Gunn v. Savage, 80, 90, 92.
Gunther, 194.
Gutta Percha v. Goodyear, 5, 131.

H.

Haarmann De v. Van Dyk, 131, 179.
Hafely, 223.
Hahn, 239.
Hake v. Brown, 47, 62.
Halfpenny, 239.
Hall v. Ahrend, 83.
Hammerschlag v. Bancroft, 44.
—— v. Garrett, 80, 109.
—— v. Judd, 114.
—— v. Scamoni, 80, 114.
—— v. Wichelmann, 90.
—— v. Wood, 90.
Handy Things v. Dorsey, 131.
Hansen v. Slick, 74.
Harbeck, 198.
Harris, 67, 71.
Harrisburg v. N. Y., 54, 114, 115, 177.
Harrison, 239.
Haskell v. Perfect, 195.
Hassam Paving v. Consolidated, 5, 45.
Hatch v. Electric Storage, 194.
—— v. Moffit, 239.
Heald v. Rice, 100.
Heath, 193.
Hedden v. Eaton, 46.
Heide, 187.
Heller v. Bauer, 109.
Hemolin v. Harway, 42, 75, 126, 163, 177, 180.
Henderson v. Cleveland, 239.
Henry, 157, 223.
Hentschel v. Carthage, 24, 82, 131, 179.
Hentz, 236.
Hermann, 107.
Heroult, 101.
Heroult v. Comr. of Pats., 85.
Herr, 218.
Herzog v. Keller, 61, 90, 199.
Hess Bright v. Standard, 35.
Hewlett v. Steinberger, 136.
Hibbard, 43, 159.
Hicks, 104.
Hide Ite v. Fiber, 69, 115, 196.
Highland v. Schmertz, 43, 64.
Hines, 226.
Hitchcock v. American, 34, 44.
Hobbie v. Smith, 193.
Hobbs v. King, 174.
Hodginson, 193.
Hoff v. Iron Clad, 91, 109, 199.
Hoffman v. Aronson, 44.
—— v. Stiefel, 174.
Hogan v. Westmoreland, 16, 92, 198.
Hoke Engraving v. Schraubstadter, 176.
Holcomb, 43.
Holiday v. Pickhardt, 90, 155, 177.
—— v. Schultz-Berge, 177.
Hollister v. Benedict, 206.
Holmes, 239.
Holstein v. Zeeland, 93.
Holt, 102, 239.
Hood v. Boston, 38, 81.
Hopkinson, 227.
Horn v. Bergner, 8, 42.
Hoskins v. General Elec., 177, 180.
—— v. Matthes, 184.
Hotchkiss v. Greenwood, 198.
Hotel v. Lorraine, 72, 205.
Howe v. Abbott, 63.
Howell, 75.
Hoyt v. Horne, 83.
Hubbell v. U. S., 18.

(References are to Notes.)

Hudson v. Draper, 109, 131.
Hurlburt v. Schillinger, 126, 194.
Huttner v. Knox, 75.
H. W. Johns v. Robertson, 199.
Hyde, 217.
Hyde v. Minerals, 39, 43, 56, 81, 119.

I.

Imperial v. Stein, 131.
Incandescent Lamp Patent, 190.
Ingersoll, 77.
International Curtis v. Cramp, 172, 173.
International Terra Cotta v. Maurer, 107.
International Tooth v. Gaylord, 49.
—— v. Bennett, 30.
—— v. Kyle, 30.
Irish v. Knapp, 42.
Ironclad v. Jacob J. Vollrath, 161, 241.

J.

Jackson v. Birmingham, 115.
—— v. Nichols, 191.
Jacobs v. Baker, 192.
—— v. Jaeger, 239.
James v. Campbell, 100.
Janin v. Curtis, 137.
Jenkins v. Johnson, 170, 181.
—— v. Walker, 81, 177, 193.
Jennens, 232.
Jensen v. Clay, 165, 168.
—— v. Keasbey, 81.
John v. Columbia Cotton, 85.
John R. Williams v. Miller, 65, 93.
Johnson v. Chisholm, 85.
—— v. Foos, 40, 42, 121.
—— v. Hero Fruit Jar, 193.
—— v. Johnson, 73.
—— v. Tidewater, 49.
Johnston v. American Heat, 194.
Jones v. McMurray, 107, 158.
—— v. Merrill, 90, 92.
—— v. Wetherill, 131, 137.
Junker, 231.

K.

Kahn v. Starrells, 39, 44, 56.
Kane v. Huggins, 92, 107.
Karfiol v. Rothner, 34, 79.
Katleyer, 67.
Kay, 226.
Keasbey v. Philip Carey, 181.
Keifer v. Unionwerke, 144.
Keith, 239.
Kelleher v. Darling, 105, 107.
Kemper, 85.
Kennedy v. Beaver, 30, 75, 77, 109.
—— v. Solar, 22.
Kennicott v. Holt Ice, 16.
Kerr, 215, 239.
Kerr v. Hoyle, 28.
Keyes v. Grant, 5.
Kiefer v. Unionwerke, 10.
Kiessele v. Haas, 129, 179.
—— v. Kilbourn, 11, 238.
Kilbourne v. Bingham, 77.
Kimball v. Hess, 93.
King v. Anderson, 180, 185.
—— v. Gallum, 193.
—— v. Hubbard, 13, 18.
Kintner v. Atlantic, 39, 44, 49.
Kintner v. Marconi, 5.
Kirchberger v. Am. Acetelyne, 100, 114, 115.
Kirchner v. Blair, 137.
Kirk v. Elgins, 186.
Klein v. Park, 47.
—— v. Russell, 69, 77.
Knickerbocker v. Rogers, 13.
Knight v. Gavit, 14.
Knox Rock-Blasting v. Drake, 88.
Knudsen, 239.
Krell Auto v. Story, 6.
Kruh v. Thomas, 70.
Krupp, see Fried Krupp.
Kuhl v. Mueller, 195.
Kupfer v. Westinghouse, 177, 180.
Kyle v. Corner, 137.

L.

Ladoff v. Demster, 136.
Lalance and Grosjean v. Habermann, 34, 114, 118, 131.
Lamb v. Hamblen, 84.
Landenberger, 183.
Lane v. Levi, 112.
Lange v. McGuin, 90, 92.
Latimer, 184.
Lauman v. Urschel, 60.
Lawley, 227.
Lawther v. Hamilton, 66, 77, 128, 140, 148.
Lederer v. Walker, 137.
Lee, 225.
Lee v. Upson, 51, 88.
Leeds and Catlin v. Victor, 95, 99, 123, 239.
Leggett, 43.
Leggett v. Standard Oil, 105.
L. H. Gilmer v. Geisel, 24.
Leighton v. Barker, 137.

(References are to Notes.)

Le Roy v. Tatham, 10, 15.
Lewis v. Cronemeyer, 14, 131.
—— v. Semple, 194.
Libby v. McKee, 140.
—— v. Mt. Washington Glass, 77, 86.
Lippincott, 234.
Little, 75, 100.
Locke, 193.
Locke v. Boch, 131.
Lockwood v. Cleveland, 193.
—— v. Cutter, 193.
—— v. Hooper, 155, 193, 211.
—— v. Lockwood, 193.
Loeser, 24.
Loew v. German-American, 79, 123.
Loewenberg, 203.
Lord, 217.
Lovejoy v. Hill, 198.
Lovell v. Cary, 56, 75.
Lowe, 83.
Lowrey v. Cowles, 93.
Lowry, 71.
Lowry v. Cowles, 92.
Ludington Cigarette v. Anargyros, 28.
Lumber v. Nestor, 22, 52, 54.
Lupton, 194.
Luten, 75.

M.

McBerty v. Cook, 131.
McClain, 239.
McClave v. Treadwell, 13.
McClellan, 222.
McClurg v. Kingsland, 34, 37, 42.
McCormick v. Medusa, 45, 149, 181.
McCracken v. Russell, 137.
McDougall, 227, 235.
McEwan v. McEwan, 198.
—— v. White, 189.
McKay v. Dibert, 103.
—— v. Jackman, 36.
McKesson v. Carnrick, 87.
McKloskey v. Dubois, 159.
McKnight v. Pohle, 22, 107, 131.
McMahan, 217.
McMurray, 61.
MacArthur v. Simplex, 67, 90.
Macbeth Evans v. General Electric, 81, 131.
Maitland v. Gibson, 16.
Malignani v. Germania, 44.
—— v. Hill Wright, 41, 44.
—— v. Jaseph Marsh, 81, 87, 91, 113.
Manhattan v. Helios Upton, 58, 113.
Mann, 30.
Manning v. Cape Ann, 131.
Many v. Sizer, 146.
Marchand v. Emken, 50, 83.
Marconi v. De Forest, 38, 114.
—— v. National, 38, 40.
—— v. Shoemaker, 77, 131.
Mark v. Greenwalt, 5, 131.
Marsden v. Comr. Pats., 193.
Marsh v. Dodge, 239.
Maryland v. Dorr, 163.
Maryland Hominy v. Baltimore, 47, 163.
Mason, 43.
Matheson v. Campbell, 22, 77, 78, 87.
Matteawan Mfg. v. Emmons, 31, 90, 92.
Matthews v. Iron Clad, 109.
—— v. Skates, 177.
—— v. Stoneberger, 239.
Maule, 74.
Maurer v. Dickerson, 81, 82, 131, 177.
Mayall, 113, 151, 155.
Mayer v. Mutschler, 14.
Melvin v. Thomas Potter, 46.
Merrell v. Natural, 5, 47, 61, 75, 88, 113.
—— v. Powdered Milk, 46, 61, 75, 81, 88, 93.
Merrill, 22, 71.
Merrill v. Yosmans, 19, 115, 146.
Mershon v. Bay City Box, 239.
Metal v. Bradford, 67.
Metropolitan Washing v. Earle, 142.
Meyer v. Pritchard, 43, 194.
Meyer v. Sarfert, 103.
Mica Insulator v. Commercial, 34, 97, 114, 135.
—— v. Union, 46.
Michaelis v. Larkin, 91, 138.
—— v. Roessler, 87, 93, 119.
Miehle Printing v. Whilock, 173.
Miller v. Androscoggin Pulp, 46.
—— v. Foree, 76, 88.
—— v. Speller, 137.
—— v Milligan, 194.
Milligan v. Upton, 178.
Milner v. Harrison, 4.
Milton v. Jordan, 196.
Mine v. Braeckel, 14.
Minerals Separation v. Hyde, 34, 57, 81.
—— v. Miami, 39, 57, 113, 131.
Mississippi v. Pittsburgh, 93.
Mitchell v. Connellsville, 10, 15.
Model Bottling v. Anheuser, 83, 103.
Moeser, 72.
Moffitt v. Cavanaugh, 64.
—— v. Rogers, 64.
Mond v. Commissioner of Patents, 43, 75.
Monden v. Curtis, 106.
Moody v. Colby, 136.
Moore Filter v. Tonopah, 41, 45, 60, 65, 67, 117.

(References are to Notes.)

Morris, 32.
Morton v. N. Y. Eye, 6, 47, 75.
Mosler v. Lurie, 77.
Mosler v. Mosler, 96, 169, 206, 225.
Motion Picture v. Laemmle, 239.
Moulton, 80, 114.
Moulton v. Com. of Patents, 50, 239.
Mowry v. Whitney, 65, 67, 75, 90, 128.
Mraz, 77.
Munising v. American Sulphite, 86, 126, 176.
Muntz v. Foster, 81.
Murmann, 225.
Murray, 231.
Muscan Hair v. American, 90, 92.
Musgrave v. Commr. Patents, 51, 183.

N.

National Chemical v. Swift, 22, 75, 77, 91.
—— Electric v. Telefunken, 18.
—— Elec. Signal v. United Wireless, 38, 51, 60.
—— Enamelling v. N. E., 10, 21, 22, 24, 75, 88, 92, 113, 118, 171, 180, 202, 242.
—— Filtering v. Arctic Oil, 131, 137.
—— Metal v. Flexible Conduit, 44, 45.
—— Newsboard v. Elkhart, 24.
—— Phono. v. American, 75, 90, 91, 94, 115.
—— Phono. v. Lambert, 84.
—— Tube v. Spang, 49.
Naylor v. Alsop, 15, 42, 46, 75, 138.
Needham v. Washburn, 66.
Neidich v. Edwards, 80.
Neill v. Comr. Pats., 107.
New Process Fermentation v. Baltz, 115.
—— v. Koch, 11, 75.
—— v. Maus, 21, 40, 46, 65, 79, 93.
New v. Warren, 100.
N. Y. Asbestos v. Ambler Asbestos, 199.
—— Belt v. Magowan, 193, 194.
—— Belt v. N. J., 202.
—— Belt v. Sierer, 207.
—— Filter v. Elmira, 44, 114, 118.
—— Filter v. Jackson, 123.
—— Filter v. Jewell, 45.
—— Filter v. Niagara, 114.
—— Grape Sugar v. Buffalo, 39, 65.
—— Pharm. v. Tilden, 186.
—— Phonograph v. National, 140.
Nimmy v. Comr. Pats., 193.
North American Chemical v. Keno, 26, 75, 161, 180, 197.
Northwestern v. Philadelphia, 137.
Norwood, 217.
Novelty v. Brookfield, 14, 21.

O.

Odheimer, 194.
Ohio Varnish v. Glidden, 76, 180.
O'Neill, 225.
O'Reilly v. Morse, 6, 10, 38, 239.
Oriental Tissue v. De Jonge, 177.
—— v. Louis, 209.
Orr v. Aschenbach, 24, 200.
Osborne, 229.
Otley v. Watkins, 112.
Oval Wood v. Sandy Creek, 172, 193.
Oxnard, 220.

P.

Pacholder, 239.
Pacific v. Bingham, 42, 66.
—— v. Southern, 38.
Painter, 153.
Palmer v. Lozier, 213.
Panzl v. Battle Island, 180, 181, 234.
Parent, 225.
Parham v. American Buttonhole, 239.
Parke Davis v. H. K. Mulford, 78, 86, 87, 108, 138, 149, 162, 167, 181.
Parsons v. Colgate, 167, 177.
Pasteur Chamberlain Filter v. Funk, 177.
Paterson, 61.
Pease, 196, 238.
Peerless Rubber v. White, 199.
Pelton Water Wheel v. Doble, 13.
Penn Elec. v. Conroy, 101, 239.
Penna. v. Cleveland, 49, 75.
Peoria Target v. Cleveland, 183.
Perkins, 65, 101.
Perkins Glue v. Solva, 47, 125, 163.
Peters v. Active, 91.
—— v. Chicago Biscuit, 43, 52, 77.
Petrie v. De Schweinitz, 131.
Pfaudler, 100.
Philadelphia Creamery v. Davis, 109, 190.
Philadelphia Rubber v. Portage, 38, 113, 131.
—— v. U. S., 113.
Phillips, 194, 237.
Phillips v. Detroit, 193.
—— v. Kochert, 75, 83, 88.
Pickhardt v. Packard, 155, 162, 167.
Pieper v. S. S. White, 5.
Pike v. Porter, 88.
Piper v. Brown, 126.
Pittsburgh Iron v. Seaman, 185.
—— Reduction v. Cowles Elec. Smelt., 34, 75, 81, 86, 114, 118.

(References are to Notes.)

Plastic Fireproof v. City, 207.
—— Slate v. Moore, 178, 180, 181.
Plumb, 239.
Plummer v. Sargent, 91, 168.
Poillon v. Schmidt, 75.
Pope v. Clark, 198.
—— v. McKenzie, 137.
Popenhusen v. N. Y. Gutta, 90.
Porter v. Baldwin, 7, 33.
Potter v. Tone, 137.
Potthoff v. Hanson, 54, 87, 115.
Powell, 225.
Power v. Proeger, 220.
Powrie, 220, 225.
Pratt, 153.
Pratt v. Thompson, 10, 75, 177.
Pressed Prism v. Continuous, 40, 44, 46, 51, 62, 126, 163.
Propfe v. Coddington, 177.
Providence Rubber v. Goodyear, 105, 126, 140, 174.

Q.

Queen v. Friedlander, 239.

R.

Rajah v. Emil, 194.
Rand McNally v. Exchange Script, 194.
Randall, 227.
Ransome v. Norris, 46.
Rappleye, 229.
Rawson v. Western, 46.
Read Holiday v. Schulze-Berge, 167, 180.
Ready v. Taylor, 131, 195.
Reay v. Berlin and Jones Envelope, 239.
—— v. Raynor, 239.
Reed v. Roberts, 137.
—— v. Street, 157, 198.
Reese, 90.
Reichenbach v. Kelly, 13.
Reid, 225.
Rembert v. American, 54, 116.
Rembusch v. Bennethum, 194.
Renwick v. Pond, 239.
Reynolds v. Standard, 207.
Rice v. Burt, 71.
Rich v. Lippincott, 131.
Richardson v. Leidgen, 86.
Rickard v. Du Bon, 32.
Rider v. Adams, 91.
Rietzel v. Harmatta, 101, 106.
Riley v. Barnard, 136.
—— v. Bauman, 131.
Risdon v. Meoart, 10, 92, 153, 159, 239.
Riter-Conley v. Aiken, 192.
Ritter v. Atlanta, 83.
Roberts v. Dickey, 81, 82.
—— v. Roter, 91.
—— v. Schreiber, 82, 85, 86, 88, 93, 124.
Rochester v. Schaefer, 50.
Rodgers, 180.
Roehr v. Bliss, 59, 212.
Rogers, 8, 10, 153, 196.
Rogers v. Ennis, 187.
Roloson, 239.
Root v. Lamb, 115.
Roselius, 153.
Rosell v. Allen, 109, 133.
Rowe, 99.
Royce v. Fifield, 202.
Royden Marble v. Davis, 83, 239.
Royer v. Chicago, 22, 82, 177.
—— v. Coupe, 24, 152.
—— v. Shultz, 109, 128.
—— v. Willemsen, 189.
R. Thomas v. Electric, 38, 42, 47, 62, 82, 171, 193, 225.
Rubber v. India, 50.
Rubber Step v. Metropolitan, 195.
Ruckrich, 106.
Rudd, 67.
Rumford v. Hecker, 76, 123, 182.
—— v. Hygienic, 123.
—— v. Lauer, 182.
—— v. N. Y., 148, 149, 163.
Ruping v. Lowry, 137.
Russell, 223.
Russell v. Dodge, 23, 107.
Ryan v. Goodwin, 177, 187.
Rynear v. Evans, 212.

S.

Sackett v. Ratkowsky, 193, 194.
Sadtler v. Carmichael v. Smith, 67, 133.
Safety Armorite v. Mark, 65.
St. Louis Stamping v. Quinby, 107.
Salem v. Thomson, 71.
Salts Textile v. Tingue, 38, 90.
Sanche, 6.
Sanders v. Emerson, 137.
Sanford Mills v. Mass. Mohair, 43.
San Francisco v. Beyrle, 30, 47.
Sanitary Street Flushing v. Amsterdam, 12.
Sanitas v. Voigt, 157, 163.
Sarfert v. Chipman, 43.
Saunders v. Miller, 97.
Sawyer v. Edison, 137.
Scheckner, 153.

(References are to Notes.)

Schillinger v. Gunther, 90, 127, 194, 195.
—— v. Middleton, 195.
—— v. Perine, 194.
Schlicht v. Aeolipyle, 116, 138, 242.
Schmertz v. Pittsburgh, 42, 43.
—— v. Western, 42, 43, 64, 93, 94, 115, 126.
Schmidt, 225.
Schupphaus v. E. I. Du Pont, 114.
—— v. Stevens, 5.
Schwartz v. Housman, 62, 119.
Schwarzwalder v. N. Y., 39, 45.
Scott, 226.
Schrivener v. Oakland Gas, 101.
Seibert Cyl. Oil Cup v. Harper Steam, 18, 113, 114.
Selbers, 153, 159.
Sewall v. Jones, 22, 81.
Shaefer, 183.
Shalters, 106.
Shannon, 193.
Shannon v. Brunner, 194.
Shaw v. Colwell, 45.
Sherwood v. Drewson, 137.
Shippen, 43, 239.
Shuter v. Davis, 193.
Sickles v. Falls, 131.
Siemund v. Endelin, 83.
Silverman v. Hendrickson, 137.
Simmonds v. Hathorn, 47.
Simmonds Counter v. Young, 24.
Simonds, 218.
Slade v. Blair, 75, 235.
Slingluff v. Bolin, 77, 107.
—— v. Sweet, 138.
Sloan v. Portland, 177.
Smith, 235.
Smith v. Elliott, 157, 193.
—— v. Goodyear, 193, 198.
—— v. Murray, 78, 182.
—— v. Nichols, 207.
—— v. Pittsburgh Gas, 66, 90.
Smyth, 222.
Snook-Roentgen v. Stetson, 33, 173.
Snow v. Tapley, 67.
—— v. Taylor, 75.
Societe Anon. v. Allen, 209.
Soc. Fabriques v. Luders, 92, 168.
Sommer, 67, 178.
Sovereign v. Lillie, 107.
Spear, 43.
Spencer v. Penna. R. Co., 145.
—— v. Trafford, 131.
Spill v. Celluloid, 81, 89, 90, 167, 177, 239.
Spirella v. Nubone, 83.
Sporting v. Haskell, 194.
Standard Asphalt v. American, 42, 61, 131.
—— Paint v. Bird, 46, 69, 77, 176, 177, 193, 200.
Stead Lens v. Kryptok, 194.
Stearns v. Russell, 97, 98.
Steel Clad v. Davison, 200.
—— v. Mayor, 199.
Steiner Fire Extinguisher v. City of Adrian, 113.
Steinmetz, 26, 81, 222.
Steinmetz v. Allen, 217.
Stemple, 225.
Stevens v. Keating, 5, 7.
—— v. Seher, 77, 138, 166, 190.
Steward v. American Lava, 81, 107.
Stilwell v. McPherson, 193.
Stimson, 227.
Stimson v. Woodman, 239.
Stocking, 230.
Stokes v. Heller, 30, 119, 239.
Stone v. Pupin, 131.
Stow v. Chicago, 189.
Strater v. Keyes, 40.
Streator v. Wire Glass, 40.
Stroh, 227.
Strom v. Weir, 30, 212.
Strong, 198.
Strong v. Noble, 25, 195.
Stuart, 97.
Stuart v. Auger, 43, 81.
Sun Vapor v. Western, 109, 144.
Sundh Elec. v. General Elec., 5, 16.
Swain v. Ladd, 239.
Sydeman v. Thoma, 13, 137.

T.

Taber v. Marceau, 91.
Tainter, 225.
Talbot v. Monell, 131.
Tallmadge, 72, 239.
Tannage v. Adams, 88.
—— v. Donallen, 75.
—— v. Zahn, 22, 51, 75, 88, 157,
Tarr v. Folsom, 148, 184.
—— v. Webb, 183.
Taylor, 43.
Taylor v. Archer, 195.
Temple, 240.
Terry v. Sturtevant, 8.
Tesla v. Scott, 58.
Thomas, see R. Thomas.
Thompson v. Bushnell, 122, 193.
—— v. Jennings, 200, 201.
Thomson, 226.

(References are to Notes.)

Thomson Elec. Welding v. Barney, 114, 174.
—— v. Two Rivers, 40.
Thomson Houston v. Dayton, 118.
—— v. Salem, 49.
—— v. Wagner, 70, 92.
Thrall v. Poole, 195.
Tibbe v. Missouri, 195.
Tilghman v. Proctor, 26, 41, 48, 86, 126.
—— v. Morse, 38, 45, 83.
Toch v. Zibell, 81, 131.
Todd, 189.
Tompkins v. St. Regis, 66, 75, 90, 131.
Tonopah v. Vincent, 68, 94.
Townsend v. Thullen, 77.
Travers v. American Cordage, 39.
—— v. Hammock, 92.
Treadwell v. Fox, 14, 131.
Treibacher Chemische v. Roessler, 177.
—— v. Wolf, 92.
Trevette, 11, 228.
Tripler v. Linde, 95, 131, 137.
Truesdell, 153.
Trussed v. Corruated, 24, 200.
Tschirner, 230.
Tuck v. Bramhill, 193.
Tucker v. Burditt, 91, 105.
—— v. Corbin, 91.
—— v. Dana, 104.
—— v. Sargent, 62, 115.
—— v. Tucker, 114, 115.
Turner, 72.
Tweedle, 161.
Tyler v. Boston, 177.
Tymeson, 225.
Tyne, 226.

U.

Uhlman v. Arnholdt, 9, 65, 80.
—— v. Bartholomae, 81.
Underwood v. Gerber, 10, 214.
Union Biscuit v. Peters, 52.
—— Carbide v. Amer. Carbide, 115, 138, 163.
—— Mfg. v. Lounsbury, 137.
—— Match v. Diamond, 239.
—— Paper Bag v. Waterbury, 43, 75.
—— Paper Collar v. Leland, 202.
—— Paper Collar v. Van Deusen, 75 204, 207.
—— Special v. Singer, 239.
—— Tubing v. Patterson, 170, 195.
United Indurated v. Whippany, 115, 209.
United Nickel v. Anthes, 38, 149, 160.
—— v. California, 38, 125, 138, 160.
—— v. Central Pacific, 127, 149, 160.
—— v. Harris, 34, 149, 160.
—— v. Keith, 111, 149, 160.
—— v. Manhattan, 42, 81, 115, 131, 149, 160.
—— v. Melchior, 160.
—— v. Pendleton, 149, 160, 177.
United Shoe v. Greenman, 13.
U. S. Consoll. Seeded v. Selma Fruit, 52, 239.
—— Electric v. Edison, 84.
—— and Foreign v. Merrimack, 183.
—— Frumentum v. Lanhoff, 44, 120, 126.
—— Glass v. Atlas, 44, 91.
—— Hoffman v. Becker, 18.
—— Metallic v. Hewitt, 199.
—— Mineral v. Manville, 84.
—— Mitis v. Carnegie, 42, 44, 52, 131.
—— Mitis v. Midvale, 88, 113, 131.
—— Repair v. Assyrian, 71, 90.
—— Repair v. Standard, 49, 88, 116.
United Tunnel v. Interborough, 49.
Universal v. Willimantic, 135.
Universal Brush v. Sonn, 24, 41, 49, 91.

V.

Vacuum Cleaning v. Innovation, 13.
Vacuum Oil v. Buffalo, 105.
Vaile v. Buckeye Iron, 51.
Van Camp v. Maryland Pavement, 146.
Van Deusen v. Nellis, 207.
Vermont v. Gibson, 38, 80, 123, 143.
Very, 225.
Victor Talking v. Am. Gramophone, 42 47, 65, 90, 103, 219.
—— v. Am. Graphophone, 168.
—— v. Duplex, 96, 114, 115.
—— v. Hoschke, 95, 98.
—— v. Sonora, 95.
Vinton v. Hamilton, 83.
Vollrath v. Comstock, 177.
Voorhees Rubber v. McDonell, 16, 199.

W.

Wagner, 93.
Walker, 227.
Wall v. Leck, 45.
Wallace v. Noyes, 64, 160.
Wallerstein v. Christian, 5.
—— v. Liebmann, 45, 88, 114.
Walrath v. Pacific, 93.
Warren v. Dodge, 93.
—— v. Evans, 86, 113.
—— v. Grand Rapids, 5.
—— v. Montgomery, 92, 162, 181.

(References are to Notes.)

—— v. N. Y., 180, 181.
—— v. Owosso, 86, 162, 180, 181.
Warren Featherbone v. American, 65.
Waterbury Brass v. Miller, 97, 162, 174.
Waterman, 46.
Waterman v. Thomson, 75, 82.
Watson v. Stevens, 47.
Weber, 36.
Weida, 180.
Weierman v. Shaw, 10.
Weintraub v. Hewitt, 18, 70, 137.
Welch, 61, 107.
Welling v. Crane, 183, 187.
—— v. Le Bau, 130, 176.
—— v. Rubber Coated, 146, 198, 199.
Wells v. Hegaman, 14.
—— Glass v. Henderson, 30, 239.
Welsbach, 183.
Welsbach v. American, 93, 131.
—— v. Cosmopolitan, 27.
—— v. Incandescent, 146.
—— v. Rex, 193.
—— v. Sunlight, 93.
Werner, 221.
Western Elec. v. Ansonia Brass, 76, 77, 163.
Western Glass v. Schmertz, 7, 61, 90, 91, 126.
—— Mineral v. Globe, 113.
—— Tube v. Rainear, 198.
Westinghouse Elec. v. Allis, 33, 71.
—— v. Beacon, 40, 82.
—— v. Dayton, 58, 65, 102, 122.
—— v. Electric, 58, 96.
—— v. Montgomery, 78, 85, 92, 115.
—— v. N. E. Granite, 58.
—— v. Orange, 115.
—— v. Roberts, 115.
—— v. Saranac, 81, 115.
—— v. Stanley, 58, 95, 115.
—— v. Sutter, 114, 131.
—— v. Toledo, 114.
—— v. Wagner, 123.
Weston, 11, 35.
Westrumite Co. v. Lincoln Park, 90, 92.
Wetherell, 41.
Wetherill v. N. J. Zinc, 111, 127.
Wheat, 234.
Wheeler, 81.
Wheeler v. Simpson, 239.
Whippary v. United, 92.
White, 43, 102.
White v. Dunbar, 107.
Whitman v. King, 131, 137.
Whitney v. Emmett, 17.
Wickelman v. A. B. Dick, 84.
Wickers, 43.
Wickers v. Albert, 133.
—— v. McKee, 133, 137.
—— v. Upham, 133, 137.
Wickwire v. Wire, 116.
Wilcox v. Bookwalter, 65.
Williams, 222, 225.
Wilson, 235.
Wilson v. Ellis, 90, 190, 191.
—— v. Hunter, 71, 90.
Wing v. Anthony, 100.
Wintherlich, 231, 244.
Wohltmann, 227.
Wolff v. E. I. Du Pont, 42, 75.
Woltereck, 90.
Wonson v. Gilman, 177.
—— v. Peterson, 107, 177.
Wood v. Cleveland, 123.
—— v. Duncan, 90.
—— v. Kahn, 75, 88.
—— v. Underhill, 77.
Woodward v. Morrison, 181.
Wooster v. Calhoon, 159.
Wooten, 105, 107.
Worley v. Loker, 131.
Wright, 43.
Wurts v. Harrington, 137.
Wyeth v. Stone, 17.
Wynne, 224.

Y.

Young, 226, 239.
Young v. Burley, 83, 88, 131.

Z.

Zabel, 227.
Zan v. Quong, 144.
Zimmerman v. Advance, 43, 90.
Zinsser v. Kremer, 61.
—— v. Krueger, 75.
Zwietusch v. Stockheim, 137.

INDEX.

(The References are to Pages.)

A.

Abandonment, 23.
Accidental, 20.
Added step, 27.
Adulterant, 7, 10.
Affidavits, 22.
Aggregation, 16.
Alloy, 34.
Alternative, 41.
Amendments, 23, 31.
Analogous, 39.
Analogous material, 17.
Analogous steps, 19.
Analysis, 34.
Anticipation, 18.
Apparatus, see "Machine."
Application, 23, 39.
Artificial, 35.

B.

Bookkeeping, 16.
Broadening, 24.
Business method, 16, 38.
By-product control, 10, 15.

C.

Cases, table of, 43.
Claims, 7, 8, 24, 25, 30, 37, 40, 41, 42.
Coating, 22.
Completing process, 27.
Composition, 25, 35, 37, 41.
Continuing applications, 24.
Courts, 8.
Crystaline, 32.

D.

Damages, 28.
Definitions, 7, 32.
Degree, 11, 13, 34.
Demurrer, 22.
Description, 18.
Detail description, 9.
Disclosure incomplete, 27.
Division, 39, 40.
Division, corrected, 20.
Drawing, 40.
Double patenting, 23.

E.

Electricity 14, 16.
Empirical, 26, 31.
Equivalents, 21, 22, 32, 33, 35.
Error, 20, 25.
Evidence, 6, 28.
Experiment, 5, 19, 30.
Experimenting, 35.
Expert testimony, see "Evidence."

F.

Failures, 29.
Foreign, 22.
Functional, 41.

H.

Hand process, 14.

I.

Identity, 16, 23, 39.
Industrial value, 7.
Infringement, 26, 27, 28, 37.
Injunction, 22.
Instrument, 5.
Integral, 39.
Interference, 29, 36, 40.

J.

Joint invention, 10.

L.

Licenses, 30.
Limitations, 9.

M.

Machine, 39.
Machine made, 39.
Machine patent, 23.
Manufacture, 36, 37.
Means, 23.
Mental coöperation, 5.
"Method," 8.
Method, 23.
Method electrical, 24.
Moving picture as evidence, 29.

(The References are to Pages.)

N.

New discovery, 33.
New material, 20.
New matter, 24, 42.
New step, 12, 13, 27.

O.

Omitting step, 25.
Operation, 5.
Operativeness, 40.

P.

Paper patent, 18.
Patentability, 5.
Patent Office, 39.
Physical differences, 34.
Practice, office, 39.
"Predetermined," 15.
Preposterous, 10.
Prior art, 22, 38.
Process, 39, and *passim*.
Product, 5, 12, 15, 32, 39.
Proof, see "Evidence."
Properties, 35.
Purer, 32.

R.

Reducing to practice, 29.
References, 35.
"Regulated," 15.
Reissue, 23, 24, 26.
Result, 31.
Revolutionary, 10, 11, 21.

S.

Secret use, 27.
Sequence, 11, 12, 15, 16.
Specification, 8, 9, 16, 18, 27, 37, 38, 42.
Step, new, 12, 27.
Step substitute, 13.
Sub process, 40, 41.
Suggestion, 29.
Synthetic, 25.

T.

Temperature control, 15.
Testimony, see "Evidence."
Textile patents, 10.
Theory, 14, 25, 37.
Tickets, 37, 38.
Transposition of material, 11.

U.

Unattainable, 33.
"Use," 31, 42.
Utility, 7, 10, 20, 32, 34, 36, 42.

W.

Waste material, 17.

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